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T H E

Modern Husbandman,

C O M P L E T E

In E I G H T V O L U M E S.

C O N T A I N I N G

- | | |
|---|---|
| <p>I. The Practice of FARMING, as it is now carried on by the most experienced Farmers in the several Counties of <i>England</i>, for every MONTH in the Year.</p> <p>II. The TIMBER and FRUIT-TREE improved, or, the best practical Methods of improving different LANDS with proper TIMBER.</p> | <p>III. AGRICULTURE improved, or, the Practice of HUSBANDRY displayed, shewn by Facts performed on all sorts of Land, according to the Old PLAIN, and the New DRILL Way of Ploughing.</p> <p>IV. CHILTERN and VALE Farming explained, according to the latest IMPROVEMENTS.</p> |
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Necessary for all LANDLORDS and TENANTS
of either PLOUGHED, GRASS, or WOOD GROUNDS.

By WILLIAM ELLIS,
Farmer, at *Little Gaddesden*, in *Hertfordshire*.

V O L. II.

L O N D O N :

Printed for D. BROWNE, without *Temple-Bar* ; C. DAVIS, in *Holborn* ; J. SHUCKBURGH, J. WHISTON, and L. DAVIS, in *Fleet-street* ; and J. WARD, against the *Royal-Exchange*. MDCCL.



T H E

Modern Husbandman,

For the Month of *April*,

Containing the following Particulars, *Viz.*

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| <p>I. A CASE, shewing how a large Field was sown with BARLEY in a wrong Manner, and how a FARMER lost most of his Crop by it.</p> <p>II. Of Sowing BARLEY, PEASE, and THETCHES, &c. by the DRILL-PLOUGH.</p> <p>III. How a GENTLEMAN made several IMPROVEMENTS in his ESTATE, by this AUTHOR'S DIRECTIONS.</p> <p>IV. The VALUE and USE of the DRAUGHT-PLOUGH, for plowing MARSH-LANDS and other Soils.</p> | <p>V. Of a famous, small, cheap TOOL, for cleaning WHEAT, BARLEY, PEASE, common HORSE-BEANS, and TICK-BEANS, that supply the Place of the great THIRTY POUNDS WIRE SCREEN, whereby a Person may obtain the BEST of any of these SEEDS.</p> <p>VI. Several ACCOUNTS and IMPROVEMENTS, from divers Parts of this KINGDOM, published for the IMITATION of others.</p> <p>VII. Why it is too late to sow WHEAT in this MONTH.</p> |
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To which are added,

Many other CURIOUS and SERVICEABLE MATTERS, never before published.

By WILLIAM ELLIS,

A Farmer, of *Little Gaddesden*, near *Hempstead*, in *Hertfordshire*.

L O N D O N :

Printed for, and Sold by T. OSBORNE, in *Gray's-Inn*, and M. COOPER, at the *Globe*, in *Pater-Noster-Row*. M.DCC.XLIV.
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THE
MODERN HUSBANDMAN,

For the Month of *April*.

CHAP. I.

Of Sowing Wheat in April.



HY it is too late to sow *Wheat-seed* in April.— I never knew *Wheat* sown in this Month, for all Farmers are of Opinion, that, if *Wheat-seed* is sown after the Month of *March*, the Crop will not answer; and this, because the Heat of the Sun, by the Course of the Year, increases daily, and thereby impregnates the Earth with that quick Fertility, as to cause such late sown Seed to run so fast into Stalk, as to miss its Kerning Quality, which is repugnant to the Farmer's Design and Interest.

The Return of Grain is what we sow our Seed for ; not, but that most Husbandmen now entertain a different Notion of Sowing Wheat later than what they did formerly, when it was esteemed a ridiculous and scandalous Neglect, if a Farmer had not green Wheat seen in his Fields, by *Michaelmas* Day. But now this Opinion is as much exploded, and to that Degree, that, where a Field of green Wheat is seen at *Michaelmas* Time, the People are ready to say, such an ignorant Farmer will have a poor Crop of Wheat ; and this, by Reason, if a mild Winter and Spring should succeed, the Wheat would run Winter-proud : That is, it would grow so early rank, as to spend its Strength of Growth too soon, and then, when in the Spring-time, bleak Winds, nipping Frosts, and Chills of Wett attack the Roots of Wheat, they have not Vigour and Strength enough left to withstand the Severity of their Power ; and then the Consequence is, that such forward sown Wheat shews its Weakness by the yellow and dying Blades, and where it happens, that Wheat is thus killed, by so much is the Crop damaged ; a Damage that is often seen in the Grounds of an injudicious Farmer, especially where the Wheat-feed is sown so early in a dry warm Soil. This is one Sort of extreme Mistake, that seldom ever falls to the Lot of a Vale-Farmer, but often to a *Chilturn* Farmer, by Means of his occupying Variety of Soils in inclosed Fields, where he can act as he pleases ; and therefore it is, that we see here more different Sorts of Operations in Husbandry, than in Vales, where each Farmer commonly plows and sows his Ground at the same Time his next Neighbour does his, as they lie in open Fields together ; and it is therefore that these Vale-Farmers are less subject to be mistaken in the Time of sowing their Wheat-feed, than *Chilturn* Farmers are ; but
there

there are other Reasons that expose *Chilturn* Farmers to be mistaken in the Sowing Wheat-feed, for, as these sow Turneps, Rapes, artificial Grasses, &c. they are obliged sometimes to feed them off late, and thus are tempted to sow Wheat late; and herein very much consists the Ingenuity of a *Chilturn* Farmer, for, if he cannot make a right Judgment of the Nature of his Soil, he cannot rightly time the Sowing of Wheat-feed: As for Example, if he should sow a wet, flat, stiff Piece of Turnep-ground so late, as after *Christmas*, he very likely would lose his Crop by it: On the Contrary, if he should sow (as I said) a dry warm Soil too soon, he may likewise lose his Crop by it. Hence it is, that printed public Accounts, of the Nature of Soils, are perfectly necessary to be known by those who are young Practitioners in Husbandry, and those of riper Years, that have gone on in a wrong Way of Farming, by Sowing Wheat-feed in disagreeable Soils, or at a wrong Time of the Year; though it must be confessed, that, under the best of Judgment, Farming is a Lottery; but much more so, when it is carried on by ignorant or unexperienced Persons, who therefore stand in the greatest Need of being informed of the more profitable Practice of those many Farmers who know much better than they do, as I have, in my several Monthly Books, given an Account of.

C H A P. II.

Of Barley, Oats, *blue* Pease, &c.

OF Sowing Barley, white Oats, and *blue* Pease. This early Spring Month, *April*, is not so late a one, as to deprive the Farmer of sowing several Sorts of Field Seeds. This Month gives the Farmer,

who is Master of a proper Soil and Inclosure, an Opportunity to display his Ingenuity, in sowing therein a proper Seed ; and, in order to do this, I shall endeavour to shew the Practice of other Farmers, that have acted in this Respect before them, and by this Means make known the dark and bright Side of their Management ; for Treading the Paths that others have made by repeated Trials, and found it the surest and most successful Way of Proceeding, may save, in a great Degree, the Risque of a Person's deceiving himself by taking wrong Measures. Happy, therefore, is he who follows the Practice of those who have by repeated Trials found their Experiments to answer, in the most successful and profitable Manner.

The Management of a bad Farmer who was possessed of a proper Soil, and yet sowed no Barley.— This Farmer rented an inclosed Farm in a Chiltun Country, where his Soil was chiefly a clean Loam, not too wet nor too dry, for which he paid ten Shillings an Acre a Year, for eighty Acres, but had no Common to keep a Flock of Sheep on to fold, and therefore he kept about forty Ewes, for Breeding only ; which discouraged him from Sowing Barley, and caused him to sow only Wheat, Pease, and Oats. Now this Farmer put himself to the Charge of digging Chalk, which he could do almost in any Part of his Ground, and laid it on his Loams, that it did some Service to : But alas ! Chalk alone will not do ; for, though it is a dry, short, sweet Dressing, yet it wants the most necessary Quality of all others, and that is the fertile one ; for which Reason, a judicious Farmer adds Dung to it in one Shape or other, as knowing that Chalk alone is of a poor Nature : However, this Farmer, by making Use of no other Dressing, than what his Stable, Hog-stye, Cow-house, and Hen-house returned him, had not enough to spare to assist a Barley-

ley-Crop, nor would he be at five Pounds Charge of buying Soot, Lime, Horn-shavings, Woollen Rags, or Malt-dust, &c. once in a Year, to get six or eight Acres of good Barley, and thereby lost a profitable Opportunity; for, without a fine Tilth, and good Dressing besides, it is a Folly to sow Barley. Now as this Farmer lived but twenty-six Miles from *London*, he might (as many do that live further off than he) have Variety of Manures for this Purpose; for it sometimes happens, that a Barley-Crop pays a Farmer more than a Wheat-Crop, because, when Wheat, by the extreme Inclemency of Winter Weather, is hurt and damaged, a Barley-Crop, that is sown at a safer Time of Year, may answer far beyond it, as it happened in the Year 1740; for had not the Barley-Crop succeeded in that Time, better than the Wheat-Crop, there had been a most lamentable Famine, indeed; but, as it happened, the Plenty of Barley helped out with the Scarcity of Wheat, and gave many poor Families an Opportunity to live, that would otherwise have been starved. From all which I would observe and infer, that it is a great Loss to let such a Farm be without a Barley-Crop; not only for the direct Profit, that it produces beyond Oat or Pea-Crops, but also for the Benefit of giving the Earth a Change of Seed, which is of vast Consequence to a Farmer, because there is no Ground whatsoever but affects this Piece of Husbandry. And whoever does not practise it, will be his own Enemy. In the Vale of *Aylesbury*, as I have remarked in my former Works, their Farmers, some Years ago, thought themselves absolutely in the Right of it, when they sowed their blue Clay, and stiff, wettish, black Loams, with only Wheat and Horse-beans; but since some of them have sown Barley, by Way of Change of Seed, they have found their Account in it, and been convinced that

that Change of Seed is one very great Means to come by plentiful Crops of Corn.

The Management of a Farmer, who, by Reason of a bad Soil that he rented, was discouraged from sowing Barley.—This Farmer, like many others in the World, rented a Farm in the Chiltun Country that lay about Twenty-six Miles from London, whose Soil, for the greatest Part, was a red, stiff, stony Clay, mixed with a Loam, so that it might be called a clayey Loam, and, like the yellow Clay, is of the most hungry, cold, and worst Sort of Clays. In this Soil there have been several Attempts made to get Crops of Barley, and to this Purpose neither repeated Plowings were wanting to get the Ground into a fine Tilth, nor Manure, or Dung, to fertilise it. But, notwithstanding all requisite Preparations were made Use of, for obtaining good Crops of Barley, the Farmer was discouraged from making further Trials, because of the several fatal Accidents that attend Barley-feed sown in such a Soil. If a long dry Time directly succeeds the Sowing, then such a Clay forms a crusty Surface and hinders the infant Barley-blades from making their Way into the Air; and, if a wet, cold Time succeeds, then the Chileness of the Weather, joining the cold Nature of the Clay, starves the Barley, makes it look reddish, instead of a deep green Colour, and causes it to pine till great Part of it dies away; so that this, and his neighbouring Farmers, who occupy the same Sort of clayey Soil, have been so discouraged from sowing Barley, that they have forborne any farther Attempt. This engages my Pen to repeat what I have formerly made appear, viz.

How, by Vertue of Steeping Barley-Seed, a red or yellow clayey Soil, that lies tolerably dry, may be safely sown with Barley-seed to great Profit.—The before-

fore-mentioned Farmers are well known, for several Miles round about them, to be good Managers, and very expert in the Art of Plowing, Sowing, and in most other Branches of the excellent Art of Agriculture ; yet, to my certain Knowledge, they act as ignorantly, in Respect of giving Ear to any new Improvement, as if they lived in *Africa* ; for I have told some of them how they might get good Crops of this Grain in their clayey Soils, by steeping the Seed, but it proved to no more Purpose than Whistling to the Air ; however, it had another Effect upon the Gentleman I gave an Account of in last Month ; one that rented about Three-hundred Acres of Arable and Meadow-ground, most of which was a stiff, flat, wettish, clayey Loam, wherein he seldom, by the common Way of sowing his Barley-feed dry, got above Three-quarters of Barley on each Acre ; but by taking my Advice, and looking strictly after the Management of Infusing the Seed according to my *Nitre-Receipt*, he got six Quarters of Barly off an Acre, as he himself declared to me ; a Quantity, as I was informed, never got off such a Soil before. So these Farmers, I have just wrote of, may, by the same Rule, get good Crops of Barly off their red clayey Loams, if they would be persuaded to Reason, and take the same Method this Gentleman did, to steep their Barley-feed according to my public Receipt ; for, by this Means, the Barley would forthwith push up its Blades before any dry Weather could have Time to crush the Surface and spoil the Crop, which leads me to make my intended Observations.

Of the Benefit of sowing Barley-feed late.— This may seem a Paradox to many, but I hope to make it obvious, that there is a Necessity for sowing Barley - feed so late as in *April*, and likewise a Safety in doing the same to a great Advantage.

First,

First, then, I am to shew that there is a Necessity sometimes, for a Farmer, to sow his Barley-feed so late as in *April*. In this Case, the Vale Farmer, who occupies a stiff clayey Soil, or a wet, stiff, loamy Soil, that lies in the Ridge-form in open Fields, is not here meant to be the Person I write of, that is under a Necessity of sowing his Barley late ; no, these have no Occasion to be under such a Necessity, because, as they sow no Clover, Turneps, nor Rapes, they are at Liberty to sow their Ground as early as they please ; but it is not so with many of the *Chiltun* Farmers, who sow Clover, Turneps, Rapes, and Rye for feeding Sheep and other Cattle in the Winter and Spring-seasons. These, I say, are those who are sometimes under a Necessity of sowing their Ground late with Barley-feed. For Example, I have a reserved Field of Turneps, which I sowed late, in order to have them young and tender in *March*, for feeding my Sheep and Lambs on them, till either my Rapes or Rye is fit to turn them into ; which would happen, as I will suppose, at the Beginning of *April*, and that they will eat the Rapes or Rye off in a Month. Now, if such Ground is fit for Barley, it may be enjoyed to great Profit, by Means of steeping the Barley-feed in Liquor, and liming it afterwards, &c. for, in this Case, here are two assisting Properties given the Seed ; that of the Sheeps-dung, and thus preparing the Seed in the greatest Safety ; for, in the second Place, the Seed, by being infused the appointed Time, will sprout out in a few Days, and, as the Heat of the Weather increases with the Length of Days, it will grow a-pace, and become a shady Cover to its Roots, that by this Means will grow so vigorous, as to withstand Heats and Droughts for Months together, till, at last, if the Ground was in good Order at Sowing-time, a large Crop may be

be expected very early: Whereas, if such Land was sown so late with only naked dry Seed, and a Course of dry hot Weather should follow directly, such Seed may lie in the Earth a great While before it shews its green Blades; and when it does, they may, very likely, grow into several Degrees of Ripeness, and then what must be the Malt that is made from such Barley? Why, perhaps, there will not half of it be true Malt, and then, I am sure, the Buyer of it must greatly suffer in large Quantities; for, I am certain, in some Summers, there have been Ten-thousand Quarters of Barley in this Condition, when the Seed has been sown in the old wrong Way of doing it, as most is done at this Time throughout *England*; for, who will believe that three Bushels of Barley-seed will surely (with the Blessing of Heaven) produce seven Quarters at Harvest, if the Earth was well manured and in a fine Tilth at Sowing-Time, although sowed so late as in *April*? But it is certainly true that it will not only produce this Quantity, but likewise that Barley of an equal Growth, provided the Seed was infused accordingly. But this Product would assuredly happen with the greater Safety, and to the greater Profit, if the Seed was bought from off the sandy Loams of *Chelsea*, *Fulham*, or *Hammersmith* in *Middlesex*, as I shall farther take Notice of.

Why a Barley-seed is more profitable to sow in a stiff Earth that comes off a sandy Loam, than any other Barley-seed.—The Change of Seed is of such Importance towards improving Crops of Grain produced by it, that many send for Wheat, Barley, Pease, &c. to great Distances. For this Purpose, there are many Sacks of Wheat carried out of *Hertford* and *Bedfordshire* into *Northampton*, *Leicester*, and *Darbyshire*, for the Sake of sowing a Seed that comes off a chalky Soil, in a clayey or stiff loamy Soil; so the *Hertfordshire* Farmers,

several of them, send for *Fulham* Barley-feed above thirty Miles an End, and all by Land-carriage. Now, though we have sandy, chalky, and gravelly Lands just by Home, yet, we of *Little-Gaddesden* chuse to be at the extraordinary Charge of sending for this *Fulham* Barley-feed, though we live Thirty-four Miles from it, and find our Account in so doing; for as we sow it in our stiff Loams, from off a sandy short Loam, it returns us a very early Crop, with a Kernel much bigger than that we sowed, and is so natural for making true Malt, that it is commonly sold for two Shillings a Quarter more than our common Barley is; but there are other Reasons for our preferring this *Fulham* Barley-feed before all others. One is, that by getting a Crop of such Barley, sooner than ordinary, off the Ground, it gives a Farmer the Opportunity to sow the same Land with Turneps, early enough to enjoy a full Crop of them. Another Reason is, that we can (if the Land is proper for it) sow Rape-feed. A third is, that, by mowing off such a very early Crop, we have an Opportunity to plow the Ground several Times, for sowing Wheat in the same in *October* following. Another is, that, this Barley being ripe before Wheat, it may be very probably got into the Barn in the driest Order, as theirs about *Fulham* commonly is, who thereby are Masters of the best of Barley-feed. And it is this excellent Quality that makes it a fit Sort to be sown in the *Northern* Parts of this Kingdom, because this Barley-feed, beyond all others, may, as I have observed, be sown late and mown early. In short, there are these two great Conveniencies attending this peculiar Sort of Barley; one is, that, by steeping the Seed, a Farmer is out of the Danger of having his Barley-crop suffer, by Dryness of Weather, although the Seed be sown in any Time of this Month of *April*, in a dry Soil. The other is, that, notwithstanding such

such late Sowing, the Crop, produced from the Seed of this *Fulham* Barley, will be ripe as soon, if not sooner than the Wheat-crop. Now to have this *Fulham* Barley-feed in many Parts of *England*, *Wales*, and *Scotland*, it may be easily and very cheaply sent by Water-carriage, because several of the Farmers, who save and sell this Barley-Seed, live very near the River *Thames*, so that there will be little or no Charge to carry it to the Boat; and, as it is then on the Water, it need not be off it, till it is put on Ship-board, and unladen at the desired Port. But there must be a great deal of Care employed in examining the Seed, for there is, sometimes, a considerable Difference in it; some may have the Seeds of Weeds among it; others may have those light Kernels mingled with it, that should have been separated from the Seed: For, if there are many of these, the Crop will be a great deal the worse for it; for, as the Seed is, so will the Crop be in a great Measure; therefore, if a Gentleman will be at the Charge of it, I will take the small Kernels from the large ones, and then the Seed will be in the greatest Order for Sowing, and produce large Ears and large Kernels, that consequently will make the best of Malt. Now to have such Barley-feed in this high Perfection, after the *Fulham* Farmer has screened and sieved it ready for selling it for good Seed, I come with the small Tool I gave an Account of in *March*, and discharge the Seed of those light small Kernels, that would produce light small Barley-corns again, if they are sown; but then there must be an Allowance made, for the Loss of such light Kernels, which, after they are thus separated from the heavy and larger ones, will be only fit for the Swine or Poultry. But this is not all the Skill that is required of a Buyer of this Seed; the Barley, by being got in damp, may so heat in the Mow, that the Seed will not grow

to Profit: In this Case the Sower will lose his Money, Time, and Labour; and it is on these Accounts that I buy my *Fulham* Barley-seed of one or two particular Men, that I know spare no Cost nor Pains, but are more than ordinary curious in the Saving of it; and, for this Reason, it is true they have the greater Price for it; but then no Person ought to grudge a Shilling or two extraordinary in every Quarter for such a delicate Sort of Seed; because a Shilling, kept back on this Account, may occasion the Loss of many Crowns in a large Crop of Barley. This most excellent Barley-seed I furnish to any Person on a proper Order; and, as I have sometimes Commissions for this Seed, I here give Notice, that it will be to no Purpose for any Person to send an Order to me for it, after the Month of *February*, because it is commonly all sold off before *March*; and therefore the most proper Time, to send for this Seed, is between *New-Year's-Day* and the latter End of *February* at farthest. And if Gentlemen who live in such convenient Parts, where this Barley may be sent them, by Water-carriage; or by Land, if the Carriage is not too long and expensive; I say, if Thousands were but sensible of the great Improvement that may be made in Barley-crops, and in making Malt, by Means of their sowing this *Fulham* Barley-seed, I am almost sure they would strenuously endeavour to have a Quantity of it sent them every third Year; for this Barley-seed will last two Crops, at least, without degenerating; but, if sown longer, it will grow worse, and at last become the same Sort of common Barley that is natural to the Country.

Of Preparing Barley-seed for Sowing. — This is more than ordinary necessary to be done, whether it be in the Use of rath ripe *Fulham* Barley-seed, the flat-eared Sprat Barley, or the famous and most profitable Barley-seed of all others whatsoever, the *Turky* Barley, which, when out of its

its Ear, can hardly be known from a large-bodied Wheat Kernel, though in its Ear it grows bearded like common Barley, as I have been an Eye-witness of. I say, when either of these are to be sown, the Seed should be first steeped in some fertile *Menstruum*, to prevent the several Mischiefs and Losses that attend the Sowing of dry Seeds in this Month of *April*, which such a late Season subjects the Seed to; for, in Case a long dry Time should directly follow the Mowing of Barley in the common naked Way of Sowing it, the Seed will lie almost unactive in the Ground, and some of it, very likely, canker, corrupt, and die; or, for Want of Moisture, its stunted puny Blades will make so slow a Growth, as to give the Worm an Opportunity to eat and kill it; or, if it does surmount these two Disasters, at Harvest there will certainly be two, if not three Sorts of Ripeness in the Barley-crop, if the Seed had not received Rain enough in due Time to cause the Roots to throw up an even Growth of Barley. Now the ill Consequence of all this is absolutely prevented, by steeping the Barley-feed according to my Salt-petre Receipt; which, as it has been published in one or more of these Monthly Books, I shall forbear Writing here, and add, that as there are several other Liquors for steeping Barley-feed in, preparatory for fertilising and insuring a good Crop, I should have mentioned them before; but, as I intend to furnish the World with more Works on the great Subject of Agriculture, I shall defer them with a thousand others for more convenient Opportunities; which Article of steeping Barley-feed will be of the greater Importance, when I make known more than one Way of doing it much cheaper than with Salt-petre; for I am very sensible, that Farmers reject the very Name of a new Improvement, when the Charge of a few Shillings is tacked to it; as, indeed, the Case is in this Respect, when Salt-petre
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sells for a Shilling or more a Pound, as it has done of late, by Reason of the great Consumption of it in the making of Gunpowder this War Time. But as my other Receipts for the imbibing of Barley-feed will be as cheap, as Salt-petre is dear, I hope I shall give the Public the greater Satisfaction, when I expose them to the World.

Of Sowing Barley-feed. — As to the Sowing of Barley-feed, I have in last Month given an Account of it, and therefore have the less to say here ; some Persons I know there are, who scruple the Sowing of rath-ripe, or *Fulham* Barley-feed in wettish or stiffish Earths, because they know it grew in the *Southern* Part of this Nation in a dry, warm, rich Soil, as thinking it too tender for their Ground and Situation : And, indeed, I am of Opinion they are in the right of it, on the Supposition that they know of no better Way of Sowing than after the old Mode, which obliges all Farmers to sow Barley-feed dry, and before the Month of *April*. But the Case is altered, because there are a Thousand new Improvements found out and practised now, that never were known before ; and, among the rest, this is one, of sowing Barley so late as in *April* with Safety, by the Means of liquoring the Seed, and liming it afterwards, which fits it for so speedy a Growth, that let the Land be ever so dry, when it is sown, and if there is no Rain for Months afterwards, still the soaked Barley-feed, by carrying Liquor enough with it into the Earth, will strike an expeditious Root, and throw up a most quick Blade, to the Carrying on its Growth in a flourishing Condition till Harvest. Therefore even the Vale-Farmer need not be afraid of Sowing *Fulham* Barley-feed, nor any other so late as in *April*, notwithstanding the great Discouragement that a clayey Soil brings many of them under, even to a Dilemma, because, say they, if we sow our Barley-feed here too soon, the Chills of Frosts and Wetts will
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spoil it ; and if we sow it so late, why then the stiff Surface will bind so fast (if a dry Time presently succeeds the Sowing) that they will be in Danger of losing their Crop by it. Now, to avoid the Damage that attends these two Extreams, Soaking the Seed will be an absolute Prevention to it, and Sowing the same in *April*, which I know many of them will not believe ; but let any of them but try a half Acre Ridge-land first, and, as that fares, let them desist, or go on hereafter with the same Practice. This is as fair a Plan as can be well proposed ; and, if they will keep up to the Punctilio of my Nitre Receipt, I will venture my Reputation on the Success : For we try and prove the *Fulham* Barley at above thirty Miles to the *Northward* of *London* ; and that in stiff, wettish, flat, *Chilturn* loamy inclosed Fields, and seldom ever find it fail our Expectation ; and, if so, I am sure it ought to be an Encouragement to Thousands of others, for their Sowing of this, or any other Barley-seed thus, and so late as in *April*, in a stiff Earth.

A Case shewing how a large Field was sown with Barley in a wrong Manner, and how the Farmer lost most of his Crop by it. — As I have just now been writing on the great Benefit of sowing Barley-seed wet, it comes in my Way to give an Account of a particular Case that occurred to my Knowledge on a Journey I took in *October* 1743, when being on the Road, I accidentally fell in Company with a Farmer of the Country I was then in, who, coming against a large inclosed Field of the gravelly Kind, told me the Farmer had plowed the Ground sufficiently fine for the Reception of the Barley-seed, but had hardly his Seed again at Harvest. Upon his telling me this, I desired him to give me his Reasons why the Barley-crop missed. His Answer was, first, that though he had plowed his Ground fine enough, it had not a Dressing bestowed upon it capable of nourishing a full Crop of Barley ;

Barley ; so that that, which was given the Ground, did little or no Good ; because, secondly, there happened to follow a long dry Time presently after the Seed was sown ; and, though there fell a little Rain, sufficient to cause the Seed to sprout and grow up some Heighth, yet, for Want of more Moisture to carry forward its Growth, the Crop began to pine, and the more by Reason of the natural Dryness and Heat of the gravelly Ground, and the hungry Quality that always attends its loose Parts ; insomuch that most of the first Shoots of the Barley withered and were dying away, when, some Showers of Rain falling, they so refreshed and enlivened the Barley Roots, that they pushed up new Shoots, that grew into several weak Stalks, and unequal very poor Ears, that had not Time to perfect their Kernels ; because, by these After-shoots, great Part of the Field of Barley became a Sort of second, but untimely and abortive Crop ; so that, at Harvest, the upright and ripe Ears made a thin and very poor Appearance to the Sight of passing Travellers, but worst of all to the ignorant Farmer and Owner, who I have Reason to believe, if he was told, before the Sowing of this Field with Barley-feed, he would run such a Risque of having it spoiled by dry Weather, if he did not first soak it in a proper Liquor ; that he had better give two Shillings for a Receipt, and thereby be taught how to steep the Seed, and prevent the Misfortune : I hardly suppose he would bestow so much Money, nor half that Sum for it. On the contrary, it would be more likely he would reject it, if it was given him only for Good-will, and, perhaps, add a scorning Flout or Jeer against all new Ways, as believing none can exceed the old ones. I have met with some of these obstinate Blades in my Travels, that were not only Farmers, but Men of somewhat a higher Rank, who, because they have read some useless, vamped up, false old Theory, perhaps, cal-

calculated at first for a different Climate to this of *England*, and wrote by Authors not capable of judging of their Truth or Falshood, and so have sent them into the World a second Time, right or wrong, to the scandal of the greatest and best natural Subject that can be written on ; and this, because they have not had a Practice, for a series of Years, in the Art of Agriculture, which is the chief Means that could qualify them for making a better Distinction and Judgment of what they wrote, which puts me in Mind of two Gentlemen, who took a great deal of Pains to prove me a Lyar, or a Writer of Truth.

How two Gentleman travelled a hundred Miles to prove this Author a true or false Writer. — This was told me from one who lived on the Spot at *Barley-End*, in *Buckinghamshire*: That two Gentlemen had rode fifty Miles an End to satisfy their Curiosity, if it was true, what I mentioned in one of my Books of *Husbandry*, that Trefoil and Clover-grasses grew together on a chalky Soil in this Part of the Country. The Person's Answer was, that, if they would ride a little farther, he would shew them the Field where they were sown, and now are to be seen. The Gentlemen went ; and, when they had received ocular Demonstration of the Fact, one of them said, *I find all is not Lyes that is written* ; which leads me to observe, that these Gentlemen were in the Right of it to divert themselves with a Ride, to prove the Truth of an Assertion of this Kind, because, if they were Owners of such a Soil, they might with the more Assurance venture to sow these Grass-seeds in the same, for Seeing is Believing. But, if they had lived at a much greater Distance, they might have saved themselves the Cost and Pains of a long Journey, by being more credulous, and have taken my Word for the Truth of it ; for I must be a very audacious Writer, in-

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deed, if I had ventured my Reputation on a false Bottom in this Respect, by directing any Person to a Place within two Miles of my House, to prove the Truth of what I asserted for Fact: However, I hope it is to a good Purpose, I did so, for by this Case many may be informed, that Clover and Trefoil will grow extraordinary well together, for two Years, in a chalky Soil, that lies flattish, and is of a moist Nature; but they ought not to expect this Success where a Chalk is too much of a hurlucky or strong Nature, for then it will not administer a sufficient Quantity of Moisture, in dry Seasons, to nourish the Grass to any great Perfection; but, where a Chalk is agreeable, the Trefoil is very proper to grow along with the Clover, because it is a branching close-headed Grass, that is therefore the more capable to shade the Roots of the Clover and forward its Growth in dry Summers. But to return to my former Subject, of the Farmer that lost most of his Crop of Barley by wrong Management: I say, if this Farmer had steeped his Barley-feed, according to my Salt-Petre Receipt; instead of having so little Return at Harvest, he might very probably have had four or more Quarters on every Acre, notwithstanding the long dry Time that succeeded the Sowing of his Seed; and, had he but sufficiently dressed his Ground, I think there had been no Danger of his having seven Quarters on each Acre: However, that I may be within Compass of the Matter, I will suppose he only lost three Quarters of Barley on each Acre, purely for Want of steeping the Barley-feed, that would have cost him not above three or four Shillings, at most, for preparing so much as would have compleatly done the first Acre, and less for the rest; then, what a Loser he must be, I leave for my Reader to judge.

Of Sowing Barley-feed by the Drill-plough.— In
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this Month the Drill-plough comes in as a very serviceable Instrument; for Sowing of Barley-feed ; because, as the Weather is got warm, and like to be more so every Day, the Seed, by being drilled in, lies deeper and securer in the Ground, than that only harrowed in, from the Power of Heats, and Damage of too great and long Droughts, which sometimes hinder a Farmer of almost half his Crop of Barley, sown in the Broad-cast Way : And therefore it is now in frequent Practice with several Farmers, to sow Barley out of the Hopper of a Drill-plough, at a Foot, or six Inches asunder, in Drills or Rows. If at a Foot Distance, the *Dutch* Hand-hough must be afterwards employed, to keep the Intervals clean from Weeds, to help this Barley-Crop, and for sowing them the next Season with Wheat, Barley, or other Grain ; gravelly, chalky, sandy, and dry Loams are vastly improved by this Means, and will, with little or no Dressing, return plentiful Crops of this Corn ; and, as these Soils are not so proper for Wheat as Barley, they may be sown Year after Year with Barley, by this Means of Drilling in the Seed, which would grow into the greater Crop, if it was first soaked and limed in a proper Liquor. There were many poor gravelly Fields sowed with Barley, by the Drill-plough, this last Year 1743 ; and, although the former Part of the Summer was attended with very dry Weather, yet the Barley grew in fine Crops ; or the Barley-feed may be sown by the Three-wheel, light, Drill-plough, at six Inches Distance in Drills, to great Profit, without Houghing, because the Ploughman can straddle the two fore Wheels, wider or narrower, to a Farmer's great Conveniency ; which is one great Perfection of this Sort of Drill-plough, for, by it, a Person may sow his Seed in as close, or in as distant Drills, as he thinks fit.

C H A P. III.

Of Dressing and Manuring the Ground for Barley-Crops.

THE Necessity of Dressing or Manuring Ground, for fertilising Barley-Crops.— As Barley is a Grain that cannot well grow too thick, it requires a more than ordinary Assistance, to support its Crop, especially when it is sown in the old dry Way ; for, when the Seed is not first liquored, nor the Ground dressed or manured, there is little Hopes of a good Crop. Wheat, and most other Grain, will prosper with less Dung or Manure than Barley will ; from hence it is, that many Farmers have fallen into the Mistake of sowing a great deal of Ground with Barley-feed, and been at the Charge of half dressing it, in Hopes that, with the Help of a kind, warm, rainy Time, they may enjoy a plentiful Crop : But alas ! many have deceived themselves on this Account, and been convinced by lamentable Experience that, had they sown but five Acres, where they did ten, and put all the Dung on the first, that they did on the last, they would have had a greater Return at Harvest. What a Loss then must this be, enough to break a slender-pocketed Farmer, who ventures to sow twenty or thirty Acres of Ground with Barley, under a half Dressing, and with dry Seed ? And especially one that rents a Vale-Farm, because, if he neither prepares the Seed, nor the Ground, it is great odds, if his Barley-Crop is not spoiled by two Extrems of Weather ; one is, that, in Case a very dry Summer succeeds, their stiff bluish, or black clayey, or marly Soils will crack and stunt the Growth of the Barley-Crop ; and, if a very wet, cold one happens, the Waters may stunt or kill a
great

great deal of that Barley, which grows near the Water-thoroughs ; a Case well known to the Cost and Damage, sometimes, of Thousands of Vale-Farmers, who, by the last Means, have little else to mow besides that Barley which grows on the Ridge Part of their Acre and half Acre Lands. Now, to prevent these fatal Disasters in a great Measure, liquoring the Barley-Seed, and well dunging or manuring the Land, is absolutely necessary for obtaining a full Crop of this universal Grain, by enabling the Seed to make an expeditious first Growth, in order to bring on an early Head to cover and shade the Roots, against the Violence and Damage of too great Heats and Droughts, and withstand the Chills of Inundations of Waters, that frequently happen in the low Situations of Vale Grounds, and stagnate the Roots of the Barley, as many of the Hill Farmers are Eye-witnesses of, when they behold Vale Lands almost covered with Water, that appear like Part of a Sea.

Of Dressing and Manuring Vale Grounds for a Barley-Crop.— I have known Vale-Farmers, for the foregoing Reasons, pen their Sheep twice on the same Land, or what may be called *double Dressing* it : Others will cast Dung first, and then fold on the same Ground ; others will only manure their Barley Land with Pigeons-Dung, as the best of Dressing for it ; and, of late, I know one, and only one, Vale-Farmer manure his Barley-Crop with Soot, and, I was a Witness, it did great Service, though not so much as if he had made Use of a sufficient Quantity of Soot ; but this he did not do, his Quantity I think was no more than fifteen Bushels to an Acre, which he sowed over the sprouting Barley, just as its green Blades appeared above Ground ; whereas, had he sown ten Bushels on every half Acre Ridge Land, he had compleatly manured all the Barley Ground. However, the Soot he made Use of did him a great deal of Service, in the wet cold Spring.

22 *Of Dressing Ground for Barley-Crops.*

Spring Time of 1738 : By which Trial I am convinced that Coal Soot is very proper to assist Barley-Crops in Vales, contrary to the received staunch Opinion, so long entertained by these Farmers, who always, as far as I can learn, held it a lost Attempt to make Use of Soot for assisting their Crops of Corn, as believing their wet cold Land would draw the Vertue of it in too soon, and the sooner, if great Rains fell presently after it was sown ; and, if a very dry hot Season presently followed, then they believed the Soot would help to burn up, instead of nourishing the Corn. But, as I said, Experience shews that Soot agrees extraordinary well with Barley, sown on Ridge Vale Lands ; and so it does, with several Sorts of Soils in the *Chilturn* Country.

Of Dressing and Manuring Chilturn Lands, for fertilising Crops of Barley.— The vast Quantities of Manure that are yearly fetched from *London*, and consumed in *Hertfordshire*, for fertilising Crops of Corn and Grasses, prove, that it does considerable Service to *Chilturn* Farmers ; for improving our Barley-Crops, we make Use of Soot, Rags, Ivory-shavings, Cows and Hogs Hair, Rabbits, Hens, and Pigeons Dungs, Trotters, Hooves, Sprats, Malt-dust, &c. for, as our Lands are not so marly and rich as those in Vales, we are obliged to be at a great Expence for such Assistance ; which is also more than ordinary necessary as we often, and oftener sow our Land, than Vale-Men can, as we are inclosed, and they are not ; and this we are forced to do in a double Manner, where the Land is a Gravel, a Chalk, or a clayey Loam ; therefore we sow Turneps, Rapes, Clover, Thetches, *French* Wheat, &c. to help towards enriching our Grounds ; and besides these we frequently add the Fold, or Horn-shavings, Stable or Fowl Dungs, or some other Sort, or else we could not get five, six, and seven Quarters off an Acre : But, besides thus assisting Barley-Crops,

Crops, with one or two Dressings of Dung and Manure, it is absolutely necessary that we *Chilturn* Farmers be at an extraordinary Charge for so doing, because there is another second Crop to partake of its Benefit the next Year; and therefore, we say, Two Years Crops lie upon this one Year's Dressing; and first, if we dress Barley with Soot, about a Week or Fortnight after it has been sown, we sow twenty Bushels of it over each Acre; but others think it a better Way to sow this Quantity of Soot, as soon as the Barley-feed is sown, and harrow both in together; and indeed, I have found it the best Way, by Reason it lies, in this Form of Sowing, closer to the Kernels, than when the Barley is sown first, and harrowed in, and the Soot sown afterwards; nor has the Soot so much Power this Way to burn the Blades of the Barley, in Case a dry hot Season should follow, as it has when sown after the Barley is harrowed in; and so efficacious is such a Dressing of Soot to the Ground, that a Pea-Crop sowed on the same, in the next Spring Season, is hoped for, in a plentiful Manner, and by this Means seldom fails the Owner's Expectation. But the Manure of Soot will not answer to Profit, if made use of in three Sorts of Land, in a loose light Sand, in Marsh Lands, or in Three or Four-bout Lands; in the First, the Earth is too hollow and spongy to retain it long enough on its Surface to assist the Roots of the Barley; in the Second, the Land lies too flat and wet, to give the same Benefit to the Grain; in the Third, the Water-thoroughs are too deep, and the Ridges too narrow, to receive a due Assistance from so light a Body as Soot is; and, when it is washed off into these Thoroughs, it is in a Manner lost, because little or no Corns grow here; but, when it is sown on Barley that is sown on broader Lands, it will answer as I have before observed. Secondly, if we dress our Barley-Crop with Malt-dust, we commonly

24 *Of Dressing Ground for Barley-Crops.*

monly sow but Twenty-five double Bushels, or ten Sacks of it over each Acre thus : Out of a Seed-cot, a Man sows it Broad-cast, as soon as the Barley-Seed is sown, and harrows in both together ; and, if Showers fall in due Season, there is no Fear of a good Crop of Barley ; for this is of such an efficacious fertile Nature, that it will mightily assist the Grain, and add a Benefit in a small Degree to the next Year's successive Crop of Pease or Oats. But this delicate Manure is more difficult to come by in our Parts of late, than formerly, because a great deal of it is consumed in feeding dry or fatting Cows, as well as those that give Milk ; Horses that are to be fat-
ted for Market, Working-Horses, and Swine, in-
somuch that it now sells for one Shilling for every double Bushel ; but there are several other Uses, that this Manure may be put to both in Farming and Gardening, that I could name, did it suit with my present Purpose ; but, as I am here confined to the Article of *Barley*, I shall postpone Writing on them, till I publish more Works of this Kind. Thirdly, if we dress our Barley-Crop with Cart-Dung, it should be of the rotten Sort, because it will the sooner and better mix with the Seed ; and then it may be laid on the Ground, just before the last Plowing, to be spread all over it, and plowed in. When this is done, the next Thing is to sow the Seed, either on the rough or the smooth Ground ; on the rough is meant when the Barley is sown on it as the Plough leaves it : But then it will come in Rows, and be the better haled, or covered from Vermin. Others will harrow once in a Place first, and then sow all their Barley-Seed, and finish by two or three Harrowings afterwards ; others will sow half their Seed on the rough Ground, and when it has been harrowed in, once in a Place, they will sow the other Half, and harrow it in, twice or thrice long-ways and short-ways, that is to say, cross-ways ;

ways; some again will, as soon as the Barley is sown, draw their Cart over the Ground, and lay fifteen, or more, Loads on every Acre, for spreading their rotten Dung, with a great deal of Care, that it may cover all the Surface, as near as they can; and indeed, this is a good Way, not only to hinder the Field Fowls, in some Manner, from devouring the Kernels, but it will also preserve the Roots very much from the Power of Droughts; if Rains fall in Abundance, they will the better wash down the Goodness of the Dung on the Barley-Roots, and cause them to branch and grow into a fine full Crop. Fourthly, if we dress our Barley-Crop with the Fold, it must be done only in a dry Time, for, if the Fold was to be employed in wet Weather, it would do more Harm than Good, by the Sheep's treading in the Ground so hard on the Barley, as to prevent a great deal of it ever coming out: But if the Fold is set on the Barley, directly after it is sown, and the Folding or Penning is carried on in dry Weather, it is the best of Dressing, for chalky, sandy, gravelly, and dry loamy Earths; because the Stale and Dung of the Sheep will add such a Fertility to the Barley-Crop, as to make it become a very good one, indeed, for I never knew this Piece of Husbandry fail its Owners, when carried on in a right Manner; and this may be done for some Time, in one and the same Field, even till the Barley is three or four Inches high; and, though the Sheep may eat and trample some down, yet their Dung and Stale will so revive it as to force it on into a most quick Growth. This is a common Practice with us in *Hertfordshire*, and other *Chilturn* dry Countries, and especially, when we sow our Barley so late as in this Month, because now the Heat of the Weather and the sprouting Spring Grass, or Clover, or Rye, that was sown in *August* last, or Turneps that are not all yet eaten off,

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26 *Of Dressing Ground for Barley-Crops.*

will enable the Sheep to dung much, and resist the cold Earth, from its hurting their Bodies; for when Sheep are thus folded so early as in *April*, if they are kept on a scanty Food, the Earth will be apt to give them the Gripes, or breed the Red-water, and, in this Respect, the Loss may be more than the Profit; therefore, none ought to pretend to fold Sheep on Barley, unless they can give them full Belly-fuls, in this Month, of Turneps, Rye, Clover, Hay, or natural Grass; for, as yet, the Days are short, and the Nights long, and generally wet at this Time of Year, which makes it the more necessary, not only to give these most useful Creatures a Belly-ful, but of that Food most adequate to their Natures, as Turneps, or Grass and Hay; the latter, to fix the flashy green Meat, and prevent the fatal Effects of too much Humidity; a Quality that is oftentimes the Sheep's Destruction, because these Creatures, that have the most porous Skin or Pelt of all other Animals, are subject, not only to suffer by the great Quantity of Moisture or Water they take in at their Mouths, in the Feed of green Vegetables, but also by what they receive from Rains, that enter their Bodies, through the large Pores of their spongy Skins; for, in such watery and cold Seasons, that sometimes happen in this Month, the Sheep are brought under those destructive Distempers, the Rot, or Red-water; and the more, by the sudden Sprouting of a Spring, raw, flashy, first Grass; but of these and many more Incidents, appertaining to these most useful Creatures, I intend to write more particularly of, in a particular Treatise for this Purpose, different from all others ever yet published. Fifthly, if we dress our Barley-Crop with Rags, it is commonly done when it grows on chalky, gravelly, or sandy Loams; here the woollen greasy Rags will do vast Service, if they are first chopped small, and sown over all the Land

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Broad-cast out of a Seed-cot, and a Man's Hand, and then plowed shallow into the Earth; which as soon as done with a Foot or Swing-plough, or Jockey-wheel Plough, the Barley-feed is to be harrowed in; and, as they are of a hollow spongy Nature, the Rags will lodge the Rains and Dews, and become a Sort of Watering-pot to the Roots of the Barley and the Earth about them, and administer such a Moisture to them in these hot dry parching Soils, that the Barley-Crop will grow with great Vigour and Expedition in the hottest Summers, and not only be serviceable to this first Crop of Barley, but will enrich the Ground for two or three Years; at least, the Rags will become a Dressing for the next Year's Crop of Pease, Oats, Thetches, or Tills; for woollen Manure agrees so extremely well with this Sort of dry Land, that the *Ivinghoe* and *Edgborough* Farmers buy great Quantities of it every Year, some from *London*, others from the *North*, out of *Bedford* and *Northamptonshires*, for thus improving Wheat and Barley-Crops, that grow in their poorest chalky Grounds, even where an Acre of such Land is let for Half a Crown a Year; and, unless the Farmers are at this extraordinary Charge for a Manure besides their Fold-dressing, it would hardly, in some Years, be worth Plowing and Sowing: But I must stop my Pen here, for, if I was to write on all the Particulars relating to the Improvement of Land, by Dungs and Manures, it would employ a large Treatise; and therefore I shall proceed to observe

The good and bad Properties attending Barley-crops that are top-dressed in this Month.—Top-dressing of Barley-crops in *April* is a very common Thing, especially in *Chilturn* Countries, because, instead of making a Fallow, on Purpose for the Reception of Barley-feed, we prepare the Ground first by a Crop of Turneps, or Rye, or Clover, or

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Rapes, or Thetches, or *French* Wheat, &c. and by this Means get a Crop extraordinary, more than Vale-Farmers can in their open common Fields, purely for a Crop of Barley, by several Plowings, that are performed in the Space of very near one Year, before they can sow their Barley-feed. And, where they are obliged to make a regular Fallow, as such Turneps, Rye, or Rapes are fed off by Sheep, they leave so much Dung and Stale behind them, as serve in Part of a Dressing : And, to compleat it, as soon as ever the Barley is harrowed in, we either top-dress it with short Dung, or with Malt-duft, or with Soot, or with Peat-ashes, &c. Now, in Case a rainy Time presently succeeds the Sowing of the Barley, then the Quintessence of such Top-dressing washes down on the Roots of the Grain, and forces forward a most expeditious and vigorous Growth of it, so that its early Blades cover and shade the Roots against the Damage of Droughts as well as the Top-dressing itself. Thus both the Vertue and Substance of it contribute very much to the Perfecting a full Crop of Barley. But, in Case a dry, hot, long Season of Weather succeed the new-sown Barley-feed, then the Danger is, that such Top-dressing does more Harm than Good, by burning up the Blades, or Shoots, of the Barley, and drying its Roots, sometimes to the Destruction of the greatest Part of the Crop ; and the more, as the Barley-feed is sown so late as in *April*. Now, the Intent of my writing this Paragraph is, to shew and illustrate the great Benefit of steeping the Barley seed, because it absolutely prevents all such Damage that may happen to a Barley-crop, by the hot Cover of the Dung, or Manure, and the long Dryness of the Weather ; for, as the steeped Seed carries a deal of Liquor with it into the Earth, it is there reserved, and becomes a Fund of Moisture for some Time, even to the Forcing on the Growth of the Crop, though
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no Rain happens for several Months afterwards ; which all will find, as well as I have done, that prepare the Seed according to the Salt-petre Receipt that I have already made public ; as to those cheaper ones, I am ready to communicate them to any Person for a small Gratitude.

C H A P. IV.

Of White Oats.

THE Conveniency that White Oats give a Farmer of sowing them in this Month.—The various Natures of Oats contribute very much to a Farmer's Conveniency. The Black Oat is reckoned the hardiest Oat of all others, and therefore is sown sooner than any, and so affects an early Sowing in *February*, that that Month is accounted the best Month in the whole Year for Sowing it. On the Contrary, a White Oat is of a more tender Nature, and more forward or quicker Growth ; which obliges Farmers to sow them late, even in the Months of *April* or *May*. Now as a White Oat requires a later Sowing than a Black Oat, it gives many *Chilturn* Farmers an advantageous Opportunity to feed their Turneps, their Rye, or their Rapes off late, and yet not be deprived of enjoying a good Crop of Corn at the following Harvest : For when any of those are fed off by Sheep, Cows, or Oxen, in this or next Month, White Oats may be sown to a good Purpose ; and it is by this Means of feeding Turneps, Rye, and Rapes off late, that either rath-ripe Barley, White Oats, or blue, or other tender Pease may be sown in this Month, directly after such a Crop is got off ; when it is an unseasonable Time to sow Black Oats, because they will run into Straw or Stalk much,

much, but little into Corn. But White Oats, having a very strong, large, flaggy Stalk and Ear of a great Bigness, employ the Fertility of the Earth for nourishing these its Branches to that Degree, as to hinder its too luxuriant Growth, and prevent the violent Attractions of the Sun's Heat, from lessening its Multiplying into plentiful Crops of Corn, when the more naked Stalk of Black Oats, if sown so late, would be overcome by them, and be rendered a poor Crop; because the Roots of the White Oat grow under a Sort of Cover or Shade that they receive from the green broad Blades that always accompany their Stalks; which leads me to make Observations on that Earth which is most proper to sow White Oats in.

Of the most proper Soil for sowing White Oats in.—Not only the Time of sowing White Oats is to be observed, but the Soil also is of the greatest Importance to be considered; for, if this Seed is not sown in a proper Earth, the Labour, Money, and Time will be in a great Measure lost. I knew a *Chilturn* Farmer sow White Oats in a wettish Loam, that returned him, indeed, Straw enough, but the Oats were of so thin a Body, that they were next to Chaff; which so discouraged this Farmer, that he never afterwards sowed any more White Oats, though his large Farm contained various Soils. On the Contrary, I knew a Farmer that lived at *Bragenham*, near *Leighton*, in *Bedfordshire*, every Year sow no other Oat, than the white Sort, because they returned him prodigious Crops off his sandy Grounds, even to nine Quarters off an Acre, and that of the largest Sort of Kernels; but then he kept his Land always up in good Heart, by the Help of the Dung of many Cattle, for this Farmer employed both Grazing-ground and Plowed Ground, which gave him an Opportunity

tunity to keep Abundance of Cattle, and them of returning him Abundance of Dung. Now this Farmer was even necessitated to sow White Oats, because his dry Ground will not bear good Wheat, nor good Barley ; therefore he chiefly sowed Rye, Turneps, and White Oats ; and, for obtaining a large Crop of such Oats, he never failed of making Choice of the largest and cleanest Seed ; and it is by these Means he used to sell the best of Oats from off a poorish Earth, as his naturally was ; but, when such a Soil of poorish Land is enriched by the Dung of Animals, or by Manures, it then in many Parts of *England* agrees excellently well with Barley and White Oats ; as is obvious to all who travel through the Counties of *Suffolk*, *Norfolk*, *Kent*, and other Parts, where, if they have Judgment enough to make due Observations in their Way, they may see great Quantities of sandy Land sown with these two Sorts of Grain, as those which best agree with it ; not but that a White Oat will grow very well on Gravels, Chalks, and dry Loams : But the chief Mistake of all others is, the Sowing them in such Soils that are Strangers to the Dung-Cart, or other fertile Dressing ; for, to expect a full Crop of White Oats off a poor barren Ground, is the same as expecting a Horse will do as hard a Day's Work, with Part of a Belly-ful of Meat, as those who enjoy a whole Belly-full ; yet, as absurd a Thing as this is, it is the Case of many ignorant Farmers, who trust so much to a wet warm Summer for producing them a plentiful Crop of Oats, that they even are careless about the Matter ; and the more, because Oats will grow into tolerable Crops, when hardly any other Corn will, with little or no Dressing ; but he who dresses his Ground on Purpose, or he who otherways keeps it in good Heart,

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has two to one the better Chance of succeeding, as I am going farther to observe.

Of dressing Ground for an Oat-crop.—Dressing, as I said, or not Dressing Ground on Purpose, for obtaining a full Crop of Oats, is not worth Disputing; the Matter of Fact is, whether the Ground is in good Heart, at the Time of sowing the Seed; if it is, an Oat-crop may, perhaps, pay as well as a Wheat or Barley-crop, in some particular Years when the two latter are cheap and the Oats are dear, as it sometimes happens to be the Case; for six or seven Quarters of Oats, at sixteen Shillings a Quarter, may fetch as much Money as Twenty-five, or Thirty Bushels of Wheat will, at Three Shillings and Six-pence a Bushel. And, therefore, those Farmers who dress or dung their Land on Purpose for an Oat-crop, and not for a Wheat-crop, are much in the Right of it; because they not only obtain very great Crops of Oats by this good Husbandry, but likewise deliver their Wheat-crops that are sown in *September*, or *October*, following the Oat-crop, from the Danger of Smut, and what we call *Pepper-wheat*, and from the pernicious Seed of those Weeds that Stable-dung commonly is mixed with, and breeds on the Land where such Dung is laid to support a Wheat-crop. But, by Dinging the Oat-crop and not the Wheat-crop, if there be weedy Seeds carried into the Field with the Dung, the Danger here is not much, for, *in the first Place*, the Oats cannot suffer by Smut; nor, *Secondly*, hardly by Weeds, because a full Crop of White Oats will not only prevent the Growth of old ones, but likewise of all new ones, and thus preserve the Land in clean pure Order and Heart, for the Reception of Wheat-feed, and forwarding its After-growth with great Expedition. Yet I cannot say that this Case is without Exception, because, where Oats are to be sown on a
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gravelly, dry, hungry Soil, that is dunged on Purpose for them, in order to sow the same Land with Wheat, as a next Crop, without Dunging, I say, this may be of ill Consequence to the Farmer, because this voracious gravelly Soil may, in the Time the Oats are growing on it, eat up and exhaust all the Goodness of the Dung to the Starving of the succeeding Wheat-crop. But, where a Loam or Sand, or Chalk, and such like dry Earth is dunged, on Purpose for an Oat-crop, it may so affect the next Wheat-crop, as to produce a very clean, pure, and plentiful one, without any other Assistance, according to the Practice of many Farmers, who occupy that Sort of Land; which is so apt to breed smutty Crops of Wheat, that they dare not do any otherways than dung it on Purpose and directly for an Oat-crop, to prevent the dire Effects of dunging on Purpose and directly for a Wheat-crop. But, what shall I say of those, who neither dung on Purpose for an Oat - crop, nor observe to keep their Ground otherways in Heart, for producing a plentiful Crop of them? Why, as they dung, so they must expect to reap or mow; as a young Farmer proved this Case to be true, who (as I have mentioned it in some of my former Works) upon receiving his Wife's Portion, took a large, chalky, poor Farm, in *Wiltshire*, about ten Miles distant from *Newbury*, where great Part, if not all his Ground lay on a Hill, exposed very much to the Power of the Wind and Sun, that suddenly increased the Dryness of his dry Land, whereon he sowed a great Quantity of Oat-feed, without Dressing; and, as I remember, he had forty Acres sowed in one Year, which happening to be a very dry and hot one, it so parched up his Oat-roots, that there soon appeared a most dismal Sight; in-

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much that the Crop was judged not worth Mowing : This obliged the young Farmer to turn in his Team of Horses among the green Oats, which, I think, were nine in Number, to eat and feed on them ; so that I cannot say the Crop was all lost, but I think it paid this Way the worst of any, for the Cattle must undoubtedly trample down and waste a great deal of such a green Crop ; and, indeed, the bad Management thereof wasted the Farmer's Pocket, for this, and some more of his wrong Management, broke him.

Of sowing White Oats.—The Sowing of White Oats deserves a particular Regard, for there is this Difference between the White Oat, and the Black Oat : The Black will gather and branch much more than a White Oat, and, therefore, if an equal Quantity of Seed was to be sown on an Acre of Ground, the Farmer may be deceived in his Expectation at Harvest ; wherefore, the *Bra-genham* Farmer, I have been mentioning, does not sow less than five Bushels of White Oats on every Acre, in order to allow for the Deficiency of their Gathering and Branching ; which is one more than we commonly sow in our Loams, when we sow them with Black Oats, for, with us about *Gad-desden*, we seldom ever sow, more than four Bushels on an Acre of these Black Oats ; but then, whether they be White Oats or Black Oats, they ought to be sown twice in a Place, over the whole Field ; for, as I have observed in last Month, many obstinate and ignorant Farmers have suffered by sowing them only once in a Place, as trusting to the Largeness of a Sower's Hand, to fling enough out of it at one Throw. And such a double Sowing is of the greatest Importance, for on the thick Growth of a Crop very much depends the Bigness of it at Harvest, because, by
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such a thick Growth, the Weeds are overcome and kept down from hurting the Oats ; and, likewise, the Heats and Droughts kept the better out from parching up the Roots of the Oats, which, in too thin a Crop, often proves fatal to it ; for, when Oats are sown in the Random or Broad-cast Way, there is no more Mould allowed their Roots than what the Harrows and Roll give them ; which, at best, is but a superficial and most thin Covering, and, therefore, the more liable to suffer by Droughts, which is different from the Way of sowing Oats in Drills.

Of sowing Oats in the Drill-way.—It is true, that, when Oats are sown in Drills, their Rows stand at a considerable Distance, enough to give the Sun and Air free Access to their Roots for drying them ; and so they would to the Loss of the greatest Part of the Crop, was it not for that Covering of Mould on them which they receive from the Drill-plough, that leaves so much on them, that not only secures the Oat-roots from the too violent Heats of the Sun, but likewise administers to them such a Nourishment, as indeed may be called a perfect Dressing ; for the Salts of their loose Top-earth, by being washed from Time to Time on them, proves such a fertile Assistance as forces on a large Growth, while the Roots of the Oats lie in great Security against the Damage of Weeds or Droughts, and from being robbed of the Goodness and Vigour of the Earth, by those Roots of Oats that grow too closely together, when sown thick in the promiscuous or Random-way on a poor Soil.

C H A P. V.

Of sowing artificial Grass-feedss amongst White Oats.

OF sowing Clover and other artificial Grass-seeds among White Oats.—In sowing all Sorts of Oats, it particularly concerns a Farmer's Interest to adjust the Quantity of their Seed as well as that of any artificial Grass, that is to be sown among them. On this Account he ought well to consider the Nature and Strength of his Soil. If Oats are to be sown in a Sand, or a Gravel, or a Chalk, without any Grass-seeds, there ought to be the greater Quantity of Oats sown, the better to enable the green Crop to lodge and shelter the Waters of Rains and Moisture of Dews, for keeping such dry Earth in a moist Condition; but then, if such Gravel, Chalk, or Sand is in so poor a Heart, that it is not able to nourish and bring such a poor Crop to a full Perfection of Growth, it will suffer by growing in short Stalks, and poor lean Ears, and thin Kernels, and is thus the more unfit to be sown with Clover or any other artificial Grass-seeds. Of this a judicious Farmer is so well apprised, that instead of sowing ten or twelve Pounds of Clover-feed on one Acre of Ground, or two Bushels of Trefoil-feed in its black Hulls, or the same Quantity of Ray-grass Seed on an Acre, he will sow but six Pounds of Clover-feed, or one Bushel of either of the other Grass-seeds, being just enough for one Feeding down at the next Spring-season, with Sheep or other Cattle; and, as soon as such a half Crop of Grass is fed down bare, he will begin to plow up the same Ground,

Ground, and fallow for a Crop of Wheat. But, when a Person intends to enjoy a Clover-crop, a Trefoil-crop, or a Ray-grass Crop, for a Year, or two, or three successively, his Business is to take Care that his Ground be in good Heart; when he sows his Oats and such artificial Grass-seeds among them. Not but that there is a Way to come by a good Crop of Clover, Trefoil, or Ray-grass, though the Seed is sown on a poor Ground, and that is this : If artificial Grass-seeds are sown on a poor Ground that is first plowed and made fine, they may take so well as to cover almost all the Land, and grow into a thick Crop the following Year ; but as it is not reasonable to expect there will be a rank Growth of such artificial Grass, without any other Help on such poor Ground, a full Dressing or Manure of Soot, Malt-duft, Lime, or Coal, Peat, or Wood-ashes, or some such Sort of Assistance ought to be put on the Grass-crop in *January*, or *February* at farthest; and then, if a wettish Time succeeds the Sowing of such Manure, there will, in Course, be a large Crop produced of such artificial Grass ; as is sometimes proved, but not very commonly, because Farmers find it best answers their Interest, when they sow their artificial Grass-seeds on Ground dressed on Purpose for a Barley, Wheat, or Oat-crop, for that one such Dressing very well answers both Ends ; that is, to produce both a full Crop of Corn and of Grass, and this for two Years together where the Land is naturally good ; but, if it is naturally poor, then one Year will be long enough. Indeed, in some Parts, they let a Crop of one or other, or all together, of these artificial Grasses lie three Years in all in gravelly Loams ; but then they take Care to manure the whole Crop the second Year for making it hold out so long in good

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good Order, and this especially is done on dry Grounds, that will bear the Feet of Cattle without their stolching it ; and where such artificial Grafs is more than ordinary wanted, as the Case is with several of those Farmers who live between *Hempstead* and *Watford* in *Hertfordshire* ; and here it is, that they sow none but Black Oats, refusing the white Sort, because they would peel and impoverish their poor gravelly Soils, much more than the black Sort ; but in other Parts, as in some Places of *Kent*, *Bedfordshire*, and other Counties, they chuse to sow White Oats before black ones, because they fetch the greater Price at Market, for the Sake of their superior Largeness of Body, and delicate Colour ; and likewise for that particular Benefit the White Oats afford all artificial Grafs-seeds that are sown amongst them ; a Benefit that is very valuable in greatly securing the Clover, Trefoil, or Ray-grafs in their infant Growth, against the Powers of Frosts and Droughts ; and this by Means of the spreading Flags that always grow up with the Stalks of White Oats, more than with Black Oats, which greatly shade and shelter the Grafs from the Injuries of violent Frosts and Heats ; but, in this Management of artificial Grafs-seeds among Oats, the Oats ought not to be sown quite so thick as when they are sown alone ; because too much Cover sometimes kills the sprouting infant Grafs, which is the Fault of, and what discourages many Farmets from sowing Clover and other artificial Grasses among Pease, because their great Cover destroys oftentimes more than nourishes a Crop of young Grafs ; and so does any other Corn-crop in a lesser Degree that grows very thick, so as to choak the Clover, Trefoil, or Ray-grafs, while it is in its *embryo* Condition of Growth ;
and

and therefore four instead of five Bushels of White Oats are enough to be sown on one Acre, when any or all these Grasses are sown among them; and then there will be Room enough for Corn and Grass to grow and flourish. The same Care ought to be regarded, when Grass-seeds are sown among Black Oats; where four Bushels of these are to be sown on one Acre, there should be only three Bushels and a Half employed, that the young Grass may not be destroyed by too close a Cover of the Oats; and although it may be said, that such artificial Grass draws so much of the Goodness of the Ground, as to rob, in some Degree, the Oat-crop; yet it may be also said, that the Shade and Moisture, which an artificial Grass yields to the Roots of the Oats, will compensate for all Damage that may happen on this Account.—It is not too late to sow Clover, St. Foyne, Trefoil, or Ray-grass Seed in any Part of *April*; for it may be done very well now among Barley or Oats, and where a Person thinks fit to venture his Grass-feed, It may likewise be done among Pease, as the tender late-sown Puffin-pea, the blue Pea, or the *Essex* Roding-pea, &c. There are several Ways, as I have remarked in last Month, to sow Clover or other artificial Grass-seeds; but this Month, in particular, gives *Chilturn* Farmers a good Opportunity to sow them by the nine Feet long wooden Roll, by Reason this Roll is commonly employed in this Month in the rolling of that Barley and Black Oats which were sown in *March*, and for sowing either Clover, Trefoil, Ray-grass, or *Lucerne* Seed, &c. among these two Grains; the Way is, just before the Roll is to be used, to sow the Grass-feed twice in a Place, and then immediately draw the Roll all over that, and the Barley

ley or Oats only once in a Place, cross the Broad-lands ; for we seldom ever draw the Roll twice in a Place, unless there be an extraordinary Occasion for so doing, as when the Ground lies more clotty than ordinary ; and, if a favourable wet Time happens afterwards in due Season, there may an excellent Crop of such artificial Grass appear, when the Barley or Oats are mowed off ; but, if a long dry Time follow, it may dry up the sprouting Seed and kill the Crop, because this superficial Way of sowing Grass-seeds very much exposes them to this Misfortune. However, there, is no Way, strictly speaking, that artificial Grass-seed sown at any Time, or in any Shape, is free of Danger of being spoiled or damaged : If it is harrowed in with Corn in *February* or *March*, the Frosts may overtake it and ruin its Growth ; or, if it is Bush-harrowed in, its Fate may be the same ; or whether harrowed in, or rolled in, the Fly, or Slug, may devour it, before it has got Strength enough to resist their Rapine. However, the Sowing of Clover, Trefoil, Ray-grass, or *Lucerne*, by the Roll, in this Month, is the last Resource ; and, therefore, all those who would enjoy a Crop of any or all of these most serviceable artificial Grasses ought to sow their Seed, at farthest, in this Month by the Roll ; and, indeed, this Month is the best Time of all others, to sow any of these Seeds among Barley in particular, where a Farmer has Reason to fear, that, by the Rankness or Richness of his Ground, their Grass would grow so luxuriant as to choak or cripple the Barley-crop ; as the Case has often happened to many, when a hot wet Summer succeeds the Sowing of it in a rich Soil ; but, by this Way of rolling the Grass-seed in at this Time of the Year, he is intirely free from this Sort of Damage, because

because the Barley-feed, being harrowed in so long before, has the Opportunity of acquiring so forward a Growth, as to be able to keep the Clover under, and prevent any such Misfortune.——

St. *Foyne* Seed also may be sowed in this Month among Barley or White Oats, though it is most commonly done in *March*. If it is to be sown among Oats, the same Ground should be duly prepared for it, by two or three Winter's Plowings to get it into a fine Tilth; for, unless this Piece of forward Husbandry is well observed, there is no great Likelihood of obtaining a full Crop of St. *Foyne*, because this is a large Seed, that cannot be well covered, unless the Earth is in a fine hollow Condition, for admitting the Harrow-tines to enter deep enough for the Purpose; yet, notwithstanding such Precaution is duly observed of preparing the Ground by several Plowings, by the better Sort of Farmers, there are others of the worse Sort, who carelessly venture to sow this or other Grass-seeds on rough Tilths, and miss their Crop by so doing, like one that told my Son on the 28th Day of *November*, 1743, he wondered his Father would oblige him to plow a Wheat Stubble-field up at this Time of Year, that must be plowed again hereafter for Sowing it with Oats and Clover; for that his Practice was, never to plow more than once for Oats and Clover, or for any other artificial Grass-seeds, and, if they hit they hit; if not, it was only the Loss of the Grass-feed. Now this was a Youngster, lately put into the Management of a very great Farm that his Father owned, and he had been bred up in all his Life, yet possessed with such an absurd Notion as this. But the same young Man was not much wiser on another Account, for this last Summer, having sown a large Field with Turnep-feed, it took all

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over very well, which made him bargain with a Company of travelling Turnep-houghers, to hough this Field at the Price of five Shillings an Acre, and they fell to work directly on the same, but continued there only one Day for the present, by reason he did not make a strict Bargain with them, not to leave off till the Whole was finished, which gave them Room to take another Man's Turneps in the same Manner. Now it happened that a very dry, hot Season came on the young Turneps, that plainly discovered the Crop would set, or what we call *burn* or *spoil*, if it was not houghed in due Time; and, as Houghers were therefore very scarce, these Workmen went about to take and secure all the Turnep-houghing they could to themselves, and thereby occasioned many Acres of them to spoil, for Want of houghing in due Time; for all the Houghings they gave the Turneps, after they were thus set, were to little Purpose; for, the dry Weather continuing a long Time, the rest of this Field was not worth hardly ten Shillings an Acre, when the first Acre that, was houghed in Season was worth thirty Shillings; for the latter Sort was small, hard, and sticky, and unfit either for Boiling, or for Feeding Sheep on them. But this young Farmer is one of that Number who are best taught to do better by their own Harms. Now to return to my Subject of sowing artificial Grass-seeds, I have here further to add, that, when we sow *St. Foyne-seed* among Barley or Oats, we never sow this great Seed by only Rolling it in: No, this is too big a Seed to be covered by merely Rolling it in; therefore we always harrow it in, when sown in the random or broad-cast Way, and yet roll the Grain, and this some Time afterwards, when the Barley or Oats are high enough for the Purpose. But *St. Foyne-seed*, as well as *Lucerne-seed*, are indeed best sown out of the Drill-plough

plough in Drills, because here it will grow in a more certain and fertile Manner, than when it is sown amongst Corn, where it is subject to be spoiled by Weeds, and the Fall and Cover of such Corn, that in hot rainy Summers, in a rich Soil, seldom fail of falling down, and being laid flat before Harvest, and then the young *St. Foyne*-crop, in all Likelihood, will be ruined. But, when the Seed is sown in Drills, the Earth has nothing else to do, than to only nourish the young *St. Foyne*, which it will sufficiently do of itself, without the Assistance of any auxiliary Dressing or Manure, and, with the Help of the *Dutch* Hand-hough, will alone nourish it for many Years together afterwards; for, when the Seed is thus sown in Drills, the loose Earth, that falls down directly on it, will not fail to secure it against Frosts and Droughts, and receive and lodge the Rains and Dews in so plentiful a Manner, that the young *St. Foyne* will grow into large strong Stalks with great Expedition, as having been preserved in its Seed from not only these Casualties of Weather, but likewise from devouring Flocks of Pigeons, Rooks, and other Field-fowls, who have great Opportunities of eating up a great deal of this large Grass-feed, when sown in the promiscuous or random Way; and then such Damage is the more, as this Sort of Seed is sown to produce a lasting Crop. But there are several other Encouragements for Sowing this large Grass-feed in the Drill Way, rather than in the random Way; which I shall forbear mentioning here, and only say, that one Bushel of it will better sow one Acre of Ground in the Drill Way, than six Bushels will in the random Way; for it is plain, that the last Way of sowing is so hazardous, that Farmers frequently miss of having full Crops of this Grass, by Means of the many Accidents attending such broad-cast Sowing, when that

Seed sown in Drills lies intirely secured from them. Now, to sow *St. Foyne*-seed in Drills, the Distance of them may be made to a Person's Fancy. It may be sown from six Inches Distance to eighteen; the further off the Drills, the less Seed, for then less than half a Bushel will do; and what is very worthy of great Observation in this Case, there is no Occasion for a Farmer to be at the Charge of twenty Bushels of Soot to sow over his young *St. Foyne*-crop, the second or third Year of its Growth, as is the usual Custom with all our *Hertfordshire* Farmers who sow this Seed in their chalky Lands, or so many Coal *London* Ashes, or Peat, or Wood Ashes; because the *Dutch* Hough may be employed every Year, or every second Year, in raising Earth in the Interspaces between the Rows of *St. Foyne*, killing destructive Weeds; and, by laying such Earth to the Roots of the *St. Foyne*, it will nourish them in an ample Manner, without any other Aid or Assistance from Dungs or Manures, and, indeed, is a greater Nourisher of Crops, than most Persons think; as is evident from those Wheat-crops sown in the random Way on fine Tilth Earths, which oftentimes produce large Crops, without any Dung or Manure whatsoever, merely by the Help of extraordinary pulverised Land, even better than some that is rough and sowre, when the Wheat-feed is sown in it, and well dunged besides. *Lucerne* likewise may be sown in Drills out of a Drill-plough, by Means of a Seed-box made on Purpose for it; for, as this Seed is hardly any bigger than Clover-feed, none of the Corn Seed-boxes will do it; and, when *Lucerne*-seed is sown this Way in Drills, the Crop is much more certain, than when the Seed is sown in the random broad-cast Mode of Sowing it, which is so uncertain, that many lose the Benefit of sowing this small Seed this Way, by
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the Fly, the Slug, and the Accidents of Weather and Weeds ; for, in the common broad-land Way of sowing *Lucerne*-seed, the Twitch or Couch-grass and other pernicious Sorts, in the second or third Year, generally get up and begin to choak, and, in Time, kill the *Lucerne*-crop. But, when *Lucerne* is sown out of the Drill-plough in Drills at a Foot asunder, then the *Dutch* Hand-hough may be employed between the Rows of this Grass now and then, to kill and prevent Weeds, and mould up the Roots of the *Lucerne* ; and, when this is duly done, there is no Fear, but that a Farmer may enjoy the Benefit of such a *Lucerne*-crop many Years in Perfection, without the Help of any Dung or Manure. However, this is certain, that all drilled Corn-seeds, or Grass-seeds, will thrive and prosper, and so will their Crops, with far less Dung or Manure, than when they are sown in the common broad-cast Way of sowing them. And I further assert, that all Annuals, or Corn-crops produced by Seed sown every Year in Drills, will prosper without any other Assistance, than what the Horse-break, or *Dutch*, or other Hand-hough may give them ; as is evident by the many Wheat, Barley, and other Crops produced by the Help of the Drill-plough and these Instruments. But then such Corn-seed must be sown every Year in fresh Land ; that is to say, in the middle Part of a new Interval, which always lies between the last drilled Corn in a flat Situation of the Land, and not in Ridges of any Kind.

C H A P. VI.

Copies of Letters.

The Copy of a Letter from a young Man that the Author recommended as a Ploughman to a Gentleman.

S I R,

I A M very sorry I cannot acknowledge your Kindness, as I heartily wish I could ; but, because the Strictness of my Place will not permit me, I therefore must desire to be excused, until Opportunity offers, when I shall endeavour to perform the same to my greatest Power, which would give me great Satisfaction. I have but a poor Place ; but, as I have a good Master, who gives me good Encouragement, I can better bear with it. I have lately been very ill of a Fever and Ague ; but, having a good Mistress, who took great Care of me, am since, Thanks be to God, restored to good Health. I have lately been confirmed by the Bishop, and since have received the blessed Sacrament to my present and future Happiness. I hope you are all in good Health, as I am at present ; I should be glad to hear from you, when Opportunity offers, how you all are, which would give me great Satisfaction ; we have a poor sandy Soil, and very hilly, and therefore we make Use of a Sort of Swing-plough, which exceeds all others I ever saw, for its Lightness and Cutting a fine shallow Furrow, which makes it the properest for a poor thin Soil of any Sort of Earth ; for this Ground is so poor, that it will hardly produce above three or four Crops, before it must be laid down to rest for Pasture two or three Years together, this being a Sort of Soil that, sooner than most others, gets into
a good

a good Pasture, because of its sandy Nature, which answers to Profit near as well as Rye and Oats, that are the most proper Grains for this Sort of Earths, which will hardly produce any other, unless it be much improved by Turneps and Clover, that are the greatest Improvers of such Land ; for, before these Improvers were practised here, our sandy Soils would yield no other than Rye and Oats, and with these Sorts their Markets were chiefly supplied ; but, since these Improvements have been made, we have great Plenty of Wheat and Barley in the greatest Part of this Country. But the Improvements we make by sowing Turneps is extraordinary ; for this Sort exceeds all others for improving our Land, destroys all Manner of Weeds, and at the same Time much improves the Land, and is our chief Food for fattening Cows and Sheep, and affords us fine Meat, because of their wholesome Quality. This Sort is commonly sown in their fallow Year, after two, or three, or more Plowings, according to your Way ; and the following Crop is Barley and Clover, and then Wheat or Rye, and then Oats, or it is laid down for Pasture for two or three Years or more, and then they often muck it for Wheat, if it requires, about *Michaelmas*, when they intend to sow it. Another Improvement is of Turneps and Rapes ; these two Sorts are sometimes sown together for a late Crop, when they do not intend to hough them, and afford a fine plentiful Crop, which very often exceeds a single Crop of Turneps, because they stand two Chances ; if one misses, the other hits ; but, if they both hit, they exceed the former, because the Rapes commonly run above the Turneps, by which Means they afford two Crops ; but when the Rape is sown by itself, as sometimes it is, it answers very well, and

and much improves the Land, as also for Fattening
of Sheep. From, Sir,

Please to direct for me at
in July 24, 1743.

Your obliged humble Servant.

Remarks on this Letter.

THIS young Man I sent to a Gentleman (a Stranger to me) in the *North*, in 1742, who lives about a hundred Miles from *London*; where he behaved so well the first Year, that he is hired to stay in the same Place another, for greater Encouragement than he received before, because he is a sober, virtuous, diligent young Man, well qualified in the Plowing and Sowing of various Soils, and performing most other Works in the Farming Business in great Perfection; and hereby he has given me the Satisfaction of answering the Character I gave the Gentleman of him, which is not a small Pleasure to me, nor a little Benefit to him; for, as he lives with a Person that is reputed to be one of the best of Masters, it will undoubtedly redound to his Advantage, as well as my Reputation. And altho' he has, as he says, a hard Place of it (I suppose of the Working-part) I am not sorry to hear it: It is what I act myself towards my own Children and Servants, for I *collar* the first (as our Country Term is) as early as possible; that is, I bring them up to work as soon as they are able to do any Thing, and continue so doing, the better to fit the Back to the Burthen; for, when they are accustomed to labour in their Youth, Work becomes the easier to them afterwards. I have a Boy but sixteen Years of Age, that thrashes me Wheat, Barley, Oats, Pease, Beans

Beans, or Thetches; and who, in *October* 1743, thrashed me out five Bushels of Hog-pease in one Day, and threw them out of the Chaff; and, tho' he is my Son, I favour him not, in Respect of Confinement and Labour; but, for his Encouragement, I give him small Wages: By this Means he is always in his Sphere, when he works hard. I have another Son, my Ploughman, that is so naturalised to Fatigue, by bringing him up in this Manner, that, if he is kept idle but one Day in the House, he protests it is more disagreeable to him, than Labouring all that Time. My Servant also, by my Son's Example of close Application to Business, keeps him Company at the Labouring-Oar; and, if he was a negligent idle one before, he now becomes pliable to Work. And to make sure of a Day Labourer's performing equal Work with my Son in making and plaishing Hedges, Thrashing, &c. I pay him half Wages; that is, I give him Half what he and my Son earns for that or other Work that admits of Measuring. But the Conveniency of all this does not end here, it fits them the better for other Service hereafter; and, as I help Gentlemen to Servants, I endeavour to send such as understand Work, and will diligently perform it in Husbandry Affairs: And I have the Happiness to say, I never yet came off with any Disreputation this Way. Not but that I may, as well as others have done, send a Servant that may not answer my Character, as not being able to answer for future Behaviour; but, if any Gentleman leaves the Choice of one to me, my Endeavours shall not be wanting to recommend one that will give Satisfaction. And if a Person has a Mind to have one that can hold the Drill-plough, and employ the profitable new invented Horse-break, &c. it may be worth such a Gentleman's While to be first at the Charge of a Guinea, on Purpose to have a Plough-

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man qualified to manage these advantageous Instruments before he comes to him (if he is not already) which I will undertake to get him learned, and be Master of in one Week's Time; for when a Servant has been hired, and lived as a Ploughman before, to hold and work common Ploughs, he will presently and easily learn to hold the Drill-plough, and work the Horse-break, *Dutch* Hand-hough, &c. and perhaps, on this Account, the Guinea so given may prove the best Money the Gentleman ever laid out in the Farming Business. I have since received another Letter from this young Man, dated the 17th of *August* 1743, wherein he very judiciously gives me a further and valuable Account of their Farmers Management in the Country he lives in.

The Copy of a Letter from this Author to a Gentleman, concerning the Uses of burnt Clay, and several other Matters.

S I R,

A Letter, dated the 19th Instant, I received from your Bailiff, and have here sent you an Answer to the same, as I have done to two others before to him, and rode near twenty Miles to find out a Man to burn you Clay into Ashes; and should be very glad to make Use of all Opportunities to do you Service, since I met with an Encouragement for it, from Mr. ———, who gives you the Character of a worthy Gentleman.

Your Bailiff tells me, in one of his Letters, he could never have believed Clay could be burnt into Ashes, had it not been for my Books. But, as he is now convinced of it, by burning large Quantities, he writes me Word he is at a Loss how to apply them. This, therefore, is to let
you

you know, that, as I have burnt Clay myself, seen it done by others, and the Ashes made Use of, I have to acquaint you, that there are several excellent Uses that these Ashes may be put to, provided they are rightly managed; but, before I come to these Particulars, I would observe, that, although the Burning of Ashes may answer to very great Profit, when done on a good Account; as, where a Pond, a Cellar, a deep Ditch, or subterranean Drains are to be made, or Ant-hills, or other Excrescences of Earth, are of Service to remove from off the Spot of Ground; in any of these Cases, if the Soil is a Clay or other austere rough, stiff Earth, it may be of vast Service to burn it into Ashes; and it is by far better put to this Use than to be at the unnecessary Charge of carrying it away to distant Receptacles, or other Places, where, perhaps, it might lie a Nuisance or useless. But to spoil a serviceable level Surface, by digging into it and making and leaving Pits open, purely for the Sake of getting Clay and burning it to Ashes, may be of very ill Consequence; and, to prevent Mischief from open Pits, the new Invention took its Rise of digging only a round Hole of three Feet Diameter, enough for a Tub to be let down, and drawn up with Chalk, for chalking our *Hertfordshire* plowed Fields; and this Hole we now commonly make in a Hedge, on Purpose that it may be the more out of the Cattle's Way, to prevent any Danger of their falling into it. Whereas, heretofore, we used to make and leave large Pits, perhaps, fifteen, twenty, or more Feet wide to come at our Chalk, and this in the Middle, or some other open Part of a Field, which has occasioned many Misfortunes; I knew two Horses spoiled, by falling into them. However, the Burning of Clay is certainly of great Use, where it can be done to Conveniency

and Profit, and therefore it comes more and more into Practice, as Densheering or Burning only Grass-surfaces two, three, or more Inches deep does less and less ; because the Upper *Stratum* of such Grass-ground is the best and richest Part of it ; and to burn this into Ashes for a Manure may, probably, by the fertile Salts of it being burnt and loosened from such Earth, produce three or four good Crops of Corn successively ; but, afterwards, Barrenness with a Witness must ensue, till there be more Money laid out for great Quantities of Dung or other Dressing, than the Ashes of such a Surface availed. This old, silly, short-sighted Piece of Husbandry is now held in such Contempt of burning only Surfaces into Ashes, that, did a Person go about to persuade a *Hertfordshire* Farmer to such a Practice, he would take that Man to be either a Fool, or one that designed his Ruin. This leads me to remark, that such an evil Practice may be put out of any malicious Tenant's Power, if it is specified in an Article or Lease by a penal Covenant, that he shall not burn any Surface of Earth (without the Landlord's Leave in Writing under his Hand first obtained) for the Sake of the Ashes it will make for producing an extraordinary present Crop, lest he, near the Expiration of his Time, do this, to get out the Heart of such Ground, and leave it in such a poor Condition for the next Tenant, that the Landlord must sink his Rent to get one ; not but that there is Room for Exceptions even on this Account. Where Heath-ground, Rush-ground, or such like is to be converted into a better Sort, then, indeed, Burning such a Surface may be absolutely necessary to destroy the Roots of Furz, Fern, Ling, Flag, or Rush, and for making Way for the Plough to get Crops of
Corn.

Corn in their Place, or good Grass to succeed in their Room. For this Purpose there is more than one Way to burn Clay into Ashes ; one is, by burning it in a Heap in the open Air, as we do Peat, with the Help of Roots, Faggots, or other Offal-wood and some Turf or Mould put next on it, to kindle and light the Fire, till it burns into the Clay ; and, then only with a gradual Increase of Fire, and Cover of dry or wet Clay, or both, on the Outside of the Heap to enlarge the Quantity of the Clay and keep the increased Fire at the same Time from Bursting out, the Workman may carry on his Burning with Safety till he has burnt Hundreds of Loads of Clay in such a Heap, for so vehement is such a confined Fire, that it has burnt Flint-stones to Powder, much more a Clay, that is of a softer Body ; but as I have already in some of my former Works been particular in Writing on this Subject of Burning Clay in the open Air in a Heap, which is the only Way practised by Farmers, and some Gentlemen, as a cheap and very ready one ; I shall not so much enlarge on it as otherwise I would do, but observe, that the Burning of Clay in a Clamp is, by two Authors, recommended as the best Way of all others ; and that the Burning of Clay wet is much better than when burnt dry, for Reasons the Author on improving Clay-ground assigns ; but, for my Part, I know of none, as yet, that burns Clay for Manure in a Brick-clamp, and therefore shall here only remark, that, when Clay is burnt to Ashes, such Ashes are not to be carried into the Field as they are, and as some have done, and laid them in a promiscuous Condition on the Ground ; no, this would be perfectly wrong Management, and have the same chargeable Effect, as happened to two several Gentle-

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men through the Ignorance of their Bailiffs, who carried their Clay-ashes, and spread them over the Grafs-ground they were to improve, as they were burnt, without first separating the gross Sort from the fine; and thus Pieces of burnt Clay, like little Pieces of Brick-bats were laid over the Grafs-ground, in Assurance that the Frosts would shoal and dissolve them; but, on this Account, their Expectation was deceived, for these Pieces of burnt Clay had too much of the Clinker Nature in them, to dissolve by Weather, at least, not in a very little Time; which obliged the Owners to be at the Charge of having them picked off the Grafs and carried away. Therefore, when my Affairs will permit me to wait on you at your Seat, I will shew your Bailiff a new Method of applying these Ashes in a far more profitable Manner than hitherto has been done by any Person I know, besides one particular Gentleman's Bailiff, who most commonly every Year burns more or less of these Ashes; for to burn Clay into Ashes, and not know how rightly to apply them, is but doing the Work in Part. In the mean Time, I shall in the next Place acquaint you with an Account of the famous Drill-plough, Horse-break, and *Dutch Hough*.

A Gentleman, altogether a Stranger to me, living about sixty Miles distant from *London*, on reading, in my Monthly Books, the great Benefits I have in them set forth, that will accrue to all Occupiers of proper Soils that make Use of the Drill-plough, Horse-break, and *Dutch Hough*, sent me an Order lately, to provide these two first Instruments with all Expedition; accordingly I bespoke their Making of the original Makers, to be compleatly made in three Weeks Time at farthest. In the mean Time, the Gentleman wrote to me to desire, I would instruct his Bailiff in their Use

Use, and he would send him to where I should appoint. He came, and I shewed him various Fields of drilled Wheat at a Foot Distance each Drill, and others sowed with Barley, Pease, and *Lucerne* Grass in Drills out of the Drill-plough. The Wheat, the Barley, and the *Lucerne* Grass were kept clean houghed, so that hardly a Weed was to be seen in the Intervals, by the Help of the *Dutch* Hand-hough ; but the Pease were (and so are Horse-beans) assisted by the famous Horse-break, being a new-invented and most excellent Instrument for saving the Charge of Hand-houghing, and forcing on the Growth of prodigious Crops, even in dryish Summers ; for this double, but very light Machine, rakes and breaks the Earth between the Rows of Corn, and turns it on the Roots of them, being an improved Invention on the most ingenious Mr. *Tull*'s Horse-hough Plough, and is now made Use of by many common Farmers, as their Jewel-Tool, for enabling them to get Crops to pay their Rents and live well. And, therefore, I recommend the Drill-plough, Horse-break, and *Dutch* Hand-hough, as extreme profitable Implements for using in some of your dry Soils, for I am sensible, the large Farm, you have lately taken into your Hands, abounds with several Sorts of Earths. I have sent several of these Instruments to foreign Parts, as well as to Gentlemen in *England*, for improving their Estates, in the cheapest Manner possible, where the Soil will admit of their Use ; and this I assert as Matter of Fact, because in a clean sandy Loam, a gravelly Loam, a chalky Loam, or in an intire dry Loam, and such like Land where a Drill may be commodiously made, if a Person thinks fit, he may carry on the Cultivating, Sowing, Reaping, and Mowing of Corn and artificial Grasses, without the Assistance of any other live Cattle than Horses

or Oxen ; and, as great an Improbability as this may appear to some, I can prove it to be true by ocular Demonstration to any Person that shall think fit to be at the Charge of being thus informed of the Truth on the Spot. But what is farther extraordinary remarkable in this new Sort of Drill-Husbandry is, that all Dung or Manure, usually laid on Corn-lands for improving their Crops, may be wholly appropriated to the Enlarging of Grass-crops; for, in this new Way of Farming, the Corn-crops want it not, and, therefore, all Dung and Manure, that may be made, has here an Opportunity to be employed on Meadow-ground, or where Clover, or other artificial Grass-seeds, or Turneps, or Rapes are sown in the Random or Broad-cast Way. Thus a Gentleman, or Farmer, whose Land is agreeable to this new Husbandry, may carry on this Business in a most cheap Manner, as being in no absolute Want of live Stock more than Horses ; but I am sensible, that in this Case there will arise a Question, how Crops of Corn, &c. can be nourished without Dung or Manure? To this I answer, That, the twelve Inches Interval of Earth between the Rows of drilled Corn being most carefully kept weeded and cleaned by the *Dutch* Hand-hough, the Mould, raked by this Means from Time to Time on the Corn-roots, will prove a sufficient *Pabulum* or Nourishment to them for producing large Crops. And when the Wheat or Barley is to be sown next Year, without any Dung or Manure in the same Field, the new Drills must be made in the Middle of the last Intervals ; and thus every Year new Seed may be sown in new and fresh Ground, by which Means the Wheat will be delivered from that pernicious Disease incident to a Wheat-crop, when dressed with Dung, called *Smut*, and likewise from that called *Pepper-wheat*, if the Seed is
clean

clean, when sown ; but was I to enumerate all the Advantages appertaining to the Sowing of Grain, artificial Grass-seeds, Turnep-seeds, &c. in Drills, I might enlarge to the Number of above Thirty.

I have lately discovered four Sorts of excellent Wheat-seeds, never yet sown in *Hertfordshire* ; two whereof excel the old common red *Lammas*, that has carried the Bell Time out of Mind, for making the finest of Flour ; but these two make finer than that, as I have heard some capital Bakers and Farmers affirm to be true. A third Sort I have seen grow in Drills, made by the Pulley Drill-Plough, that carries a great Number of Corns in a very thick bunchy Ear, I believe as many again as ever grew in a *Lammas* Ear ; and, as I remember, the Gentleman Owner told me it was a *Turky* Sort of Wheat, but, being the first Time of Sowing it in 1742, he was at a Loss then, to let me know the true Nature of it. The fourth Sort is, likewise, a foreign Grain, lately introduced into this Nation, whose Character was sent me by a Gentleman, a perfect Stranger to me, out of a pure Love to his Country, as knowing me capable of spreading the Knowledge of its excellent Vertues throughout the Nation ; which are, that in sandy, chalky, gravelly, or dry intire Loams, this Wheat may be sown to great Profit, but not till the Month of *March*, and yet will flourish and be ripe at the same Time other Wheat is. And, what is farther extraordinary of this Wheat, he says, it will be as good a Crop in such poor Soils, as other Wheat will in rich Soils, as by his Letter to me he affirms to be true. If so, it must be of vast Service to this Nation to sow it in *March*, as soon as a Crop of Turneps, Rye, or Rape is eaten off. Now all these

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Sorts of Wheat are nearly alike in their Bodies to our common Sorts, and, as the first two Sorts make finer Flour and Bread, than common *Lammas* Wheat-flour does, they will, in Course, sell in our Markets before all others ; and as the fourth Sort out-does all other Wheat-feed in *England* for sowing late in a poor Soil, surely, if any cay afford to buy it, and have an Opportunity of sowing it in a proper Soil, and do not, they are wanting to their own Interest ; Gentlemen especially, because, in neglecting this, they are neither their own nor their Tenants Friends.

I am Master of an excellent Secret, that intirely prevents the Slug, or naked Snail, and Fly, from eating and spoiling young seedling Turneps, Rapes, Weld, Flax, and many other Vegetables, both in Fields and Gardens, in their infant Growth ; and, although it should rain a Month together, this Antidote will not lose its Vertue, because it is no Powder, but will do the Feat infallibly, and nourish the Crop at the same Time to great Perfection.

I have, likewise, a most valuable Way to prepare Wheat-feed without Brine, which gives the Farmer a great Deal of Trouble, and a considerable Charge, besides Loss of Time ; but this Way compleats the Managing and Preparing of two Bushels and a half or three Bushels of Wheat-feed for Sowing in a Quarter of an Hour ; will deliver it from the Danger of Smut or being Pepper-wheat, greatly nourish it, and hinder the Worm's Mischief. A Way I always follow myself, and have constant Success by it, and all for the Sake of Two-pence Charge for curing so much Wheat as sows one Acre. For Barley-feed I have also several Ways of preparing it for Sowing, for less than

than Six Pence an Acre's Charge. Now all these, and Hundreds of more useful Secrets, I could publickly discover for improving Husbandry ; and therefore all Gentlemen, in particular, ought to encourage the Communicating them, because Gentlemen are more liable to be imposed on than Farmers, as they are obliged to do their Business by a Steward, a Bailiff, or Ploughman. It is on this Account, I say, he ought to qualify himself with so much useful Knowledge, as may enable him to make a tolerable Judgment when a Thing is done well or ill. And as there is a most dangerous Tenet or Principle reigning in many of the common poorer Sort of People, *viz.* That it is no Sin to filch or steal from a rich Man, because he can afford to sustain a Loss : —It highly concerns a Gentleman that occupies his own Land to have his Wits and his Eyes about him, to prevent Impositions, and take all Occasions to improve his Estate in the best Manner possible, to balance the several Losses they are more than ordinary liable to. And here I must observe, that one great Security, against the Thievery and Rapine of Travellers and the worse Sort of People, is for a Gentleman to be affable, kind, and benevolent to his Neighbourhood in particular, for by this Means they will not only be obliged to do such a Benefactor all the Good that lies in their Power, but endeavour to prevent others doing him any Harm ; for, as they are many and he but one, they may see and prevent that which neither he nor his Servants can. I heard a Gentleman say, he feared sustaining no Damage from his Neighbours, by Reason he always did them what Service his Conveniency permitted him. I could enlarge very much on these Particulars, but I presume you will think I have been tedious and too free already ;

which, in Hopes you will excuse, I subscribe myself,

Sir,

Your most obedient humble Servant,

to command,

*Little Gaddesden,
August 25, 1743.*

W. Ellis.

To ——— Esq;

*The Copy of a Letter from this Gentleman to the
Author.*

S I R,

I Am very much obliged to you for your Letter of the 25th Instant, and for the Hints you were so kind to give me in it, touching the Manner of using burnt Clay ; and, when I have made Trial of it, I shall let you know what Success I may meet with therein.

If your Affairs should bring you my Way at any Time, either in Town or Country, I should be extremely glad to see you. I am

*London,
August 31, 1743.*

Your very humble Servant.

The Author's Remarks on this Letter.

This Gentleman I, as well as most, if not all others that know him, account one of the most accomplished Persons we have at this Time in *England* ; as the great Business, he weekly very honestly, diligently, and accurately dispatches, declares

declares him likewise to be, to the Satisfaction of all who have to do with him, in the particular and momentous Sphere he acts in : Yet in Farming or Husbandry Affairs he is, in some Measure, a Stranger. However, being a Gentleman of better Sense than to prefer Pride to Humility, he condescends to consult such an inferior Person as I am ; who, although I bear no Comparison with him in Respect of his great Estate and Learning, it is plain, he is not above adhering to the Advice of a Man, that has acquired his Knowledge in the Art of Agriculture, by chargeable Travelling, long Experience, Conversation, and Study ; and serviceable Advice must be of the greater Importance to such a Gentleman in particular, because his Town Affairs oblige him to be hardly above one Day in the Week at his Country Seat, and, therefore, he is necessitated to trust the more to the Management of his Bailiff, whose Conduct he will become the better Judge of, as he increases his Knowledge in rural Affairs, by reading Books on this Subject, and consulting their Authors ; and this he has the greater Encouragement to do, as he occupies a very large Farm at this Time of his own, situated within a Day's Journey of *London*, that gives him not only an Opportunity of enjoying a healthful Recreation, but likewise may furnish his Town-house with Variety of fresh, wholesome, and delicate Provisions to his great Profit and Pleasure ; which, if I was here to enumerate, it would employ my Pen in a longer Discourse than I can at this Time conveniently write.

C H A P. VII.

Of Pease to be sown in this Month.

OF the particular Sorts of Pease requisite to sow in April.—This Month gives many of the *Chilturn* Farmers an Opportunity to improve their Land, by sowing it, at this Time, with a Sort of Pease proper for the Season of the Year ; for on this very much depends the Success of a Pea-crop ; a Truth often proved by the fatal Effect of a wrong Conduct, when it is employed in sowing that Sort of Pease in *January*, *February*, or *March*, which should not be sown before this Month, because their tender Nature renders them unable to withstand the severe Assaults of Northerly and Easterly Winds, which in these Months generally blow in a more nipping and sharper Degree than at any other Time of the Year. From hence it is, that, though the Soil is duly prepared, and the Seed got in Perfection, and the Sowing of it performed in the best Manner possible, yet all this will not secure a plentiful Crop of Pease, if the Farmer sows a wrong Sort at an improper Time. After many Years Experience, we *Hertfordshire* Farmers have found none to answer our Interest so well as the Horn-grey Hog-pea, the Maple, the Blue, and the White. It is these four Sorts that we chiefly sow in our inclosed Fields, in Refusal of all others, because we find, by repeated Experience, that these best agree with our various Soils, when sown, in a proper Manner, at the right Time of the Year. If we should sow a Horn-grey Pea in *April*, the Farmer would deceive himself in his Expectation of a Corn-crop, because, instead of that, he would get little else but Straw ; for this Pea is of so hard a Nature, and so slow of Growth, that it requires six or seven Months

to ripen into a plentiful Crop of Pease, when a blue Pea, and others as tender as that, will be in Perfection for Mowing, or Hooking, in four Months; so different are the Qualities of these two Sorts of Pease, though both grow the same Year in the same Sort of Ground. It is, therefore, that, if a blue or other tender Pea was to be sown in the Months of *January* or *February*, the Crop would consequently be lost by the Severity of the Weather, because the *Hampshire Kid-pea*, or *Kidwell*, the *Maple*, the *Essex Roothing*, the *Puffin*, the *Spanish Mulatto*, the *Rouncival*, *Dutch Admiral*, the *Marrow-fat*, the *Non-paril*, the *blue Union*, &c. are all of them of so tender a Nature, that, if they are thoroughly pinched and nipped by a very hard Frost at Root and Stalk, they can never recover a right Growth again, but will shew their Sicknefs and Decay by their red and withering Heads. At best, a Pea-crop is subject to more fatal Accidents than any other Corn we sow besides; infomuch, that, in the Random, Common, Broad-cast Way of sowing Pea-feed in Fields, we hardly get a full Crop of them above once in three Years, because the Cold, the Drought, and the Slug are all Enemies to Pea-crops, when they happen to be in too great a Power for their regular Growth; which leads me to write on their particular Damage, for the Knowledge of the Disease is sometimes half the Cure.

Of the Damages that sometimes happen to Pea-crops by too early Sowing and Excess of cold Weather.

—As Frosts and Chills of Waters are very great Enemies to the Growth of Corn-crops, and most of all to Pea-crops, it behoves the Farmer to be more than ordinary upon his Guard in preventing their Mischiefs. Now this is to be done by several Means: 1st, By Sowing the Seed in an agreeable

greeable Soil, and at a proper Time of the Year. If a Person would sow Hog-pease so forward as in *January*, he must not only sow a Horn-grey Pea, then, but do it in a warm dry Soil, as, in a chalky, sandy, gravelly, or very dry Loam, because these strain off the Waters from the Pea-roots in a little Time, and thereby deliver them from their ruinous Stagnations ; for, if a Farmer was to sow, at that Time of the Year, the hardy Horn-grey Pea on a clayey or a flat, stiff, wet, loamy Soil, he has just Reason to expect to pay dearly for his Mistake, and fear the Loss of his Crop by so doing ; because here the infant Sprouts of the Pea are infested, on all Sides, with the Chills of Air, of Water, and of Earth, that consequently will overcome even its hardy Nature ; for, if the larger and older Plants of Rosemary, Rapes, and many others are overcome and killed, by the Severity of Frosts, and Chills of Wetts, and Winds, that sometimes happen in *January*, *February*, and *March*, as they did in the Year 1739, how much more will new-sown and sprouting Pease be liable to be destroyed, when they are sown in an austere, sowre, cold, chilly Earth, and such a Season of Weather should suddenly follow and continue for some Time. Yet, as absurd as such a Conduct seems, I have known it ventured on by Farmers, who by their long Practice should have acted otherways ; and this Mistake they are the rather led to commit, because they may sometimes chance to get a good Crop of Pease by such an early Sowing in a cold stiff Soil, when a mild Spring succeeds ; and then, in Hopes of the like Success another Time, they run the Risque of repeating the same hazardous Piece of wrong Husbandry, but generally to their Loss ; which they likewise are tempted to do, because of their getting their Land sown with Beans, Pease, and Oats,

before

before Barley-season comes on in *March* and *April*, and thus fall short of that full Crop of Pease, which, perhaps, they see their next Neighbour enjoy, who sowed the same Seed in the same Soil, but at a more proper Time.

Of the Damage that happens to Pea-crops by too late Sowing their Seed.—As I have just finished my Thoughts of expressing Part of the Damage that frequently attends the Sowing of Pease too early ; I now come to make Observations on the Damages that sometimes happen to Pea-Crops, by too late Sowing ; the chief Cause of which results from Droughts and Slugs : If from Droughts, it has the greater Power to hurt Pea-crops, when the Seed is sown in a Chalk, in a Sand, or in a Gravel, which being all loose, short, light Earths, they give the Sun and Air a free Access to their Roots ; and, when the Pease are in their juvenile low Growth, their Stalks not having Length enough to cover and shade them, they often suffer even to the Loss of most of the Crop, as wanting sufficient Moisture to forward their Growth ; and, when they have received so great a Check as to be thus damaged, in their first and early Growth, they sometimes never fully recover it, but, like a Pig, or other Animal, that is much stunted, while it is young, if it lives, it never makes so large a Creature, as its Fellows of the same Litter, that were better kept. This Sort of Damage, partly accruing by late sowing Pease in dry Soils, is most obvious to all Spectators in very dry Summers, especially in Blossoming - season, when Pea-crops in such Soils and Weather are not able to perfect their Blossoms for Want of Moisture, and then the Crop is, in Part, or fully lost. A Case that often happens in chalky Soils, not above three Miles Distance from my House, as I have heretofore observed, where several

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veral of their Farmers are weary of sowing Pease at any Time in this Earth, because of this Damage that makes them suffer more or less in very dry Summers; and, therefore, in Despair of better Success, they have sown Oats, where Pease, by the Course of Sowing, should have been the Crop; so powerful are the Effects of very dry Weather on Pea-crops sown in these Soils, that, though the hardy Horn-grey Pea is sown in them quickly after *Christmas*, in order for their obtaining an early sufficient Cover to shade their Roots, yet even such early Sowing is not, in such dry hot Summers, capable of preventing this Misfortune; much less when Pea-seed is sown later than ordinary in such loose dry Earths; which brings me, in the next Place, to make Observations on the Damage of the destructive Slug. The Slug, or small naked Snail, is a most hardy Insect that breeds in and shelters itself in the Day-time under Clots of Earth, and in such a Depth of it, as very much secures it not only from the Accidents of Weather, but also from the Destruction of the Plough's and Harrow's Operations. Dry, long, hot Seasons are its Enemy, but nothing so much as vehement, sharp, penetrating Frosts; nor is there any Thing so much its Friend, as warm moist Weather, which gives the Slug Ability and Opportunity to prey on Vegetables in a most voracious Manner; and, of all Field-vegetables, none is better beloved by them, nor harbours and encourages their Breed more, than green Pea-crops, because of their luxurious Food, and the easy Access they meet with to climb their couchant Stalks, Leaves, Bloom, and tender Pods. These, I say, all of them contribute a full Subsistence to these Devourers, in moist warm Weather, by their horizontal Covering the Ground more than any other Vegetable, and thus prove the greatest Nursery

Nursery for the Slug. Now the Month of *March* being generally attended with dry Weather, and sharp cutting Winds, keeps the Slug down in its lowest Cell of the Earth; but, how far that lies from the Surface, I have something else to do, than to give a particular Account of, or of the Dimension and Shape of such Cells; I leave this to the sublime Philosopher for employing his Microscope and exalted Learning, to measure the Decimal Parts of their Depth, &c. and giving a florid Harangue on the Place, the Breed, the Growth, and the Anatomy of the Slug; for my Part, it best satisfies me, if I can give an Account of the practical or the more useful Part of the Matter, which would be, if I can tell the Gentlemen and Farmers, how they may prevent their Breed of this arch Enemy; or, when he is bred, how to prevent his Mischief to a Pea or any other Field or Garden green Crop, which two important Secrets I can impart, and warrant Success, from those many experienced Trials that have been made by a few Farmers who have reaped a very great Advantage by it; for, till this was discovered and made Use of, they never could be sure of Turneps, Rapes, Pease, and other Field-crops being delivered from the powerful Damage of Slugs, Flies, Worms, and all other Insects; but, by the Application of a certain cheap Ingredient, which is to be had almost every where in *England, Scotland, and Ireland*, these Slugs, Flies, Worms, and all other Insects are absolutely and infallibly kept from annoying Turneps, Rapes, Pease, Flax, Weld, or any other green Field or Garden-crop. A Secret, at this Time unknown to the most learned Societies, as well as Thousands more that I could never have been Master of, had I not travelled in Quest of them, and which Providence brought to my Knowledge;

an Ingredient, which, at the same Time it keeps off all Insects from hurting young Crops in long rainy Seasons, nourishes the Ground, and forces on a most expeditious Growth of them, and which I am ready to communicate at a reasonable Satisfaction. But the dry Weather and the Slug are not the only Inconveniencies that attend a Pea-crop ; it may likewise suffer by wrong Sowing the Seed.

How the right and wrong Sowing of Pease contributes to their good and bad Growth. — The wrong Sowing of Pea-seeds has been often fatal to their Crops, and, yet, this Misfortune frequently happens even to Farmers of long Practice ; now the later Pease are sown, the more hazardous is the Crop ; and, therefore, it requires the greater Consideration, how to sow them in that Way which mostly contributes to their Safety and Growth. I have before shewn, how an old Farmer sowed his Pea-feed by straining them into a Furrow out of a Man's Hand after the Plough, which were covered by the next turned-down Furrow of Earth, and so he proceeded throughout a Ten-acre Field : But this proved a wrong Way, as the Soil had but one Plowing in all, after a Wheat-crop, because, it being of the gravelly Sort, the Ground, by Rains that quickly fell after Sowing, bound it down so close, as hindered many of the Pease from pushing out their young Spires ; so that, in short, the Farmer lost most of his Crop by his ill Conduct, occasioned, chiefly, by his using the Pecked-share Two-wheel Plough, that his Ploughman could not help making so deep a Furrow, as buried the Seed, when a Foot-plough, or better the new invented Two-board Swing-plough, would have plowed a thin Furrow, which would have covered the Seed so shallow, as to have given its tender Shoots an easy Passage into the Air. This

is one Way to secure the Growth of Pea-feed in a dry Soil, by Reason it has a sufficient Cover of Earth, to hinder, in a great Degree, the ill Effects of too much Drought. *Secondly*, Or the Pea-feed may be sown Broad-cast, and plowed in as shallow as possible, as is often done, where a due Preparation of the Ground has been before ; I mean, where a *Chilturn* dryish Loam, a gravelly, sandy, or chalky Loam has had two Plowings in all, one before, and the last at the Sowing-time, especially where a Soil is any Thing of a stiff Nature, for then the safest Way is to plow it twice in all ; for many have lost their Pea-crop by being too presumptuous, and plowing in the Seed on only one Plowing in ; then comes, perhaps, a long dry Time, and prevents their Growth ; therefore, all prudent *Chilturn* Farmers will give their Ground, if it is any Thing of a stiff Nature, two Plowings, not only to make it fine and loose, for giving the Pea-shoots an easy Passage into the Air, but, likewise, for killing or preventing the Growth of those Weeds, which would otherwise choak the Pea-crop. *Thirdly*, There is a Way to secure the Roots of Pease from Droughts, by plowing them into four Furrows, which either a Wheel or Swing-plough can make in the Form of a Ridge ; and this we, in *Hertfordshire*, generally do, where our Land is of a very stiff Nature, by Reason, when Pease grow in this Ridge-form, they lie in a pretty secure Manner from the Danger of Waters and Droughts, and more from the Power of the Slug ; and, in all these three Ways of Plowing that I have mentioned, the Pease lie under a Cover of Earth, which helps to nourish them all the Time of their Growth, far beyond the common Method of only harrowing Pea-feed ; a Way that is better done in *January*, *February*, or *March*, than in *April* ;
for,

for, if Pease were to be only harrowed in in this Month, and a very long Season followed, it would greatly endanger the Crop, as being more exposed to be destroyed by Droughts than in any other Form of Sowing whatsoever, for Want of a sufficient Cover of Earth ; and not only by Droughts, but also by Field-fowls, who, by the shallow lying of the Pea-feed, have a wide Opportunity to find out their beloved Food here, and devour great Quantities of it ; which they will not fail to do, if Pease are sown in this Month after a wrong Way. Now then avoid that old pernicious Way of only harrowing in Pease that are sown Broad-cast at this Time of the Year, and sow them in a better Form.

Why large Pease and Horse-beans cannot be regularly sowed out of a Drill-plough, unless they are first prepared by an even Sorting of them.—This may seem an odd Article, at first, to some, but I shall give some Hints, that will prove it necessary, that both Pease and Horse-beans ought to be first prepared, before they are sown out of a Drill-plough ; and that, because the Seed-box as it is made to a Truth, for dropping out sized Pease or Beans, the Seed cannot be dropped out of it in a regular Manner, that is, not pretty near of one Size, and especially the larger Sort of Pease and Horse-beans ; for, when large Pease or Beans come into the Seed-box, bigger than others, it causes a Missing ; that is, there will be many Vacancies in the Drill, by Means of such Missing, that may be of very ill Consequence to a Farmer, where many Acres are sown in this Manner. Now the Pease, most liable to this Misfortune, are the Rouncival Sorts ; as, the great Rouncival Maple, which by some is called the *Grey Pea*, and is the largest Pea sown in *England* ; the great blue Union-pea, the Non-paril, and others. These, as they grow
in

in the Field, are of several Sizes ; and so they are, when cut and carried into the Barn, thrashed, and cleaned in the common Way of cleaning Pease ; and then, in Course, they will be sold in such an unsizeable Condition in the Market and at the Seed-shop. The Horse-beans are always sold in the very same uneven promiscuous Condition, so that there is no such Thing as buying any of these large Pease or Beans in an exact Size for sowing them regularly out of a Drill-plough, and then the Consequence will be what the following Account will make appear.

How a Gentleman's Bailiff attempted to sow Horse-beans of an uneven Size, out of a Drill-plough, and what was the Consequence thereof. — This happened I think in the Year 1742, in a certain Part lying about thirty-five Miles to the *Southward* of London, where a Gentleman's Bailiff attempted to sow Horse-bean-feed out of a Drill-plough ; but he could not drop them out of it in a regular Manner, because they were not all of a Size, which occasioned the small Sort to drop out sooner than the larger Sort, and in a more irregular Order ; for some of the smallest Seeds fell too thick into the Drill ; and in other Places it was too thin ; by which Means there were many vacant Parts of the Drills unsown. Now this Miscarriage of sowing the Seed regularly, is contrary to the Intent and Purpose of sowing Seed out of the Drill-plough ; for, by sowing it with this excellent Instrument, all Seed sown by it should lie regularly at near exact Distances, and in an even Depth ; and this because if one Seed should lie on, or too close by another, as they both must get their Living from the same Fund of Earth, one will rob the other, and both bear (if they grow at all) weak Stalks and under-sized Corn. But what is still worse, where the Seed misses Falling, there will be no Corn at all, only Weeds will come up,
and

and then in Course a Damage will happen to the Farmer instead of a Profit ; both which Sorts of Losses, I am going now to shew how to prevent.

How to prevent the Damage of sowing irregular unsizeable Pea and Bean-seed out of a Drill-plough. — Neither by any spliced wooden Sieve, nor by throwing with a Casting-shovel Pease and Beans in the longest Porch of a Barn, can any Tasker separate the small Pea, or Horse-beans, from the larger, in such a Manner, that they shall be all very near of one Size ; and, unless they are, they can never, as I said, be drilled in a true regular Sowing of them. This is well known to those Farmers, who thrash and sow this Sort of large Seed in Drills. Not but I own, that by a long Throw, and by repeating such a Throw, Pease and Beans may be made to answer pretty near of one Size, because the small ones will fall short of that Length that the large ones will arrive at by such a Throw. Yet still there is no such Thing to get the Seed of large Pease or Beans, by this Means, into such an even Size, as an Instrument can that is made for this very Purpose ; wherefore there was a Necessity for finding out a Way to bring this great Conveniency to pass ; otherwise, all Farmers and Gentlemen must be at a great Loss to sow regular Seed, and enjoy a regular Crop ; as the Gentleman's Bailiff's Case was I have just been writing of, who, where he found, that the Beans missed Falling into the Drill in due Time, followed the Drill-plough and sowed them out of his Hand, and thus supplied the Deficiency ; for such Deficiency must needs happen, because by the Horse drawing the Drill-plough in a constant Rotation of Pace, if small Seeds drop out sooner and thicker than large Seeds can, there must be different Vacancies and unsown Ground in the Drill, more than would be if the Seed was all or very near all of a Bigness, which must be supplied by an
after-

after Hand-sowing, if the Owner intends to reap or mow a full Crop of Grain at Harvest; but how troublesome, how irregular, and how uncertain such a Hand-sowing must be, the Sower will find, and the Crop will prove. Now, to prevent this great Damage that will happen by Sowing uneven Seed: The Gentleman, I have before mentioned, the World is very much obliged to, for inventing a very light and cheap Instrument that will effectually answer this great and profitable End of separating the small Pease and Horse-beans from the great ones, for sowing only the great ones. I have therefore this to advertise and inform all Gentlemen and Farmers, that I sell and teach the Use of these light and cheap Instruments, for culling and separating the small Sort of Wheat, Barley, Oats, Pease, and Beans from the biggest Sort. One instrument serves for both Wheat and Barley, another for Oats, another for Pease, and another for Horse-beans. Thus all Gentlemen, who keep Ground in their Hands, and sow it with Corn for Sale, and all Corn-Farmers, should be furnished with these four Instruments, if they will be compleatly set up for outdoing all their neighbouring Farmers, in obtaining far better Crops of these Grains than they can, who sow small and great Seeds together promiscuously. And, although these small Instruments are made so light, that their Charge is but a meer Trifle; yet they have such a Conveniency, that four of them will perform the Separating of five Sorts of Seed, the less from the greater Sort; whereas the great Seven-feet long, Thirty Pound round Wire-screen, can only separate two Sorts, and they are Wheat and Barley. I have also another small Tool that prepares the famous Tick-beans, by separating the smallest from the largest Seed, to a very great Advantage, for Setting in these crosses, high, wet, Vale Ridge-lands.

The great Benefit of Sowing the largest Seeds of all Kinds. —I think, I may say, I am the first Author that ever detected that absurd wrong Notion of sowing leased Wheat for the best Seed ; a Notion that has reigned, Time out of Mind, among capital Farmers, and so it does, to this Day, with Thousands ; and I confess myself to have been one of their Number formerly, till I found myself in a palpable Error, by sowing such leased Wheat ; which I was led into with the Multitude, on Account of its being free from the Stain of the Seeds of Weeds, that most other Wheat is infected with, little or more, notwithstanding the Use of the Wind or Knee-fan, the Throw, the large upright Iron-wired Screen, and the Brass-wired Rying-sieve, which cannot deliver Wheat nor Barley from all the smaller Seeds of that pernicious Weed, called *Darnel*, &c. But the Remedy proved worse than the Disease ; for though we, by the Means of sowing such leased Wheat, get cleaner Crops than ordinary, yet we pay dear for it, by its returning such a Number of weak Stalks, and lean Ears and Kernels, that the Wheat becomes so feeble, as not to be able to withstand the Fury of boisterous Winds, and the Pressure and Weight of Rains ; because the small underline Kernels, with which such leased Wheat-feed chiefly abounds, occasion a Feebleness in the Stalks, and a Return of small Kernels, that are to be sown again and again ; for, you must know, that, when Farmers buy leased Wheat to sow, it is always bought with an Intent to breed a clean Sort, that will sell for the better Price at Market ; but instead thereof we often get a Sort that sells for a worse Price ; for the small Kernels not only breed a feeble-stalked Wheat, but sometimes Smut and Pepper-wheat, for Want of Strength at Root to produce a stronger Stalk and larger Kernel. From all which I infer, with just Reason, that, if the
smallest

smallest Pease and Beans are sown among the largest Sorts, such small Seed will produce small Stalks, and they small Pods and Grains, and few in Number. And, when this happens to be the Case, where is the Farmer's Rent to be made, when Pease and Horse-beans sell for less than two Shillings a Bushel, as they did in 1743? Now by the Help of these cheap light Tools, or Instruments, a Farmer may get the largest of Pease, Beans, or other Seed, and, by sowing them in Drills, they will be larger still; for the Drilling-Husbandry carries this Perfection along with it, that it increases the Bulk of Grain sown before in the random or promiscuous Way; and, when this happens to be the Case, what will be the Issue? Why, such a Farmer will not only sell his Pease, Beans, or other Grain at Market, when his Neighbours cannot, but he will also sell them at a far greater Price; and especially when they are bought up for Seed, which these Instruments most excellently well prepare in such a Manner, that no Wheat, Barley, Oats, Pease, or Bean-seed can (I believe I may venture to say) come up to it, by a considerable Degree of Goodness, that is prepared in the old common Way of doing it with the Fan, upright Screen, Throw, or Splintered, or Rying-sieves. Here then I offer a Jewel to the World, and am the first Author that ever offered it; nor had I been able to do it, had it not been for the extraordinary Ingenuity and Generosity of a most worthy Gentleman, a Stranger to me, to whom I sent a Servant-ploughman, out of our Country, and who had an Author's Interest at Heart, whom he found endeavouring to do his Country all the Service in his Power; and I have this also to add, that, as I think I have made the great Utility of these cheap, light, little Instruments fully appear, by writing the vast Consequence they are of, to the Interest of all Far-

mers and Gentlemen who occupy plowed Grounds ; I here give Notice to all Persons who are pleased to favour me with an Order to send them either or both Sorts of the Drill-ploughs, Horse-break. and *Dutch Hough*, that it will be perfectly necessary that I send with them the Instrument for separating the smallest from the largest Seed.

Of the great Pleasure that drilled Corn yields to its Owner and Spectators.—— It is not only the most profitable Husbandry of all others, to sow Corn in Drills, but it is likewise the most delightful and most healthful. It is the most delightful, because the many Rows of Wheat, Barley, Oats, Pease, Beans, and artificial Grasses, &c. that are sown and grow in inclosed Fields, at stated Distances, give the Owner and all Spectators a spacious Prospect of viewing their several various Gradations of Growth, from the first Sight of their infant Blades, or Sprouts, to the full ripe Ears and Pods. The first Delight is, in the Wheat-crop, when its young and branching Condition shews the numerous Stalks and Ears that each Root is like to produce ; for then it makes the Owner, and it should do all others Hearts glad, in Hopes its Youth will be crowned with a plentiful old Age ; this they can plainly discern, and the better for the Corn growing thus in Rows by the Sides of large Intervals of cleaned bare Earth. The second Delight is when the Grain is observed to get the Ascendant of the quick-growing struggling Weeds, which, by growing in Drills, it is most easily helped to do, with the valuable *Dutch Hand-hough*, and the most excellent Instrument that ever was invented for this Purpose, the Horse-break, which in a very expeditious and cheap Manner may be made to eradicate the most stubborn Weeds that are ; when his Neighbours Corn is eat up and choaked in a great Measure by them, that was sown in the Random-way, because,

because, in this Position of Growth, it is impossible for the Art of Man to overcome and deliver the Corn from the infinite Damage that many of their Tribe cause in some Sorts of Seasons and Land ; and then the Farmer stands with an aking Heart to see that Evil which he cannot remedy, and which is like to endanger his Crop being seized for Rent, that his weedy thin-growing Grain may be the sole Cause of ; as, indeed, it often happens to be the very Cause of many ignorant, negligent, and poor Farmers, who might easily have prevented their Ruin, had they made Use of the Drill-plough, the *Dutch* Hand-hough, the Horse-break, and the Separating-tool ; from whence I take the Liberty to make this just Observation, That many Landlords are to blame, on this Account as well as their Tenants : The First for not endeavouring to oblige, or persuade them, to the Use of these profitable Instruments ; and the last for not accepting their Advice ; the one that he may have his Rent duly paid, and the other, that he may be certainly enabled to do it with Ease and Pleasure. The third Delight, which drilled Corn affords, is to see it in its blooming, earing, and podding Postures ; how the white, tender, trembling Bloom of the Wheat comes out from the many Joints of the green Ear, and this Day by Day for many Days together, while the glorious Sun and charming fine dry Weather are assisting in its Breed ; and in its Dying away, in the Formation of the milky Kernels, that afterwards ripen into hard golden Grain. But of this more hereafter.

C H A P. VIII.

The Copy of a Letter from an ingenious Gentleman to this Author.

THE genuine Copy of a Letter to the Author, shewing the ingenious Improvements a Gentleman made in his Estate, by the Directions of his Books.—

S I R,

October 29, 1743.

I Am the Owner of a small Estate at _____, three Miles from the Market-Town of _____, in the County of _____, of about 60 *l.* per Annum, Part in my own Hands, and Part of it let, in all about eighty Acres of Land of our large _____ Measure, which is eight Yards to the Pole or Perch, lying upon the Banks of the River _____, which parts this County from that of _____, and is a fine, dry, deep Haslemould (I think you call it *Loam*) and very level, about Two - third Parts Arable, and One - third Wood-land. Now, being foolishly fond of this Spot, I some Years ago threw down most of the old Fences, which were very irregular, cumbersome, and inconvenient (taking up much more of this good Land than I was willing to lose) and have cast the same into regular square Closes, of about three or four Acres a Piece, by raising Cops, and planting the same with Quick, which now comes on to Admiration, insomuch that one or two of the first set I ventured the last Winter to cut and lay down in the Manner you prescribe in your *Modern Husbandman* for January, Chap. XII. Pag. 89, designing to go on with more ; these Fences are clear of all Oaks as well as noxious Weeds,
only

only I have planted at about eight Yards Distance some Apple-trees.

I have the Misfortune to be but too nice about this little Spot of pretty Land, and, being one of your constant Readers, I think, I may say ever since you appeared in Print, at least since you obliged the World with your *Hertfordshire Husbandman*, and *Timber-Tree improved*, by the Help of them, and all your other Monthly Books that come out, I have made such Improvement of this little Estate, by Sowing some artificial Grasses (Things which were never seen before in this Part of the World) Turneps, and several Years Crops of good Wheat (much better than many of my Neighbours) that I find it redounds to my very great Profit and Advantage ; which my Neighbours observing, they now tell me my Land begins to look like a Garden, and are endeavouring to come into my Way ; which, if there is any Thing of Truth in their Observations, I am sure, it is altogether owing to your Goodness in obliging the World (and myself in particular) with your very useful and instructive Labours. But now, Sir, to come to the Point, I have long, with Pleasure, taken Notice of the Drill-Husbandry, recommended and described both by you and Mr. *Tull*, in that very ingenious Book of his, wherein he hath so largely and so very accurately laid down Rules for that Sort of Husbandry, and making the Instruments to be used therein : But I cannot but be of Opinion (with Submission to better Judges) that Mr. *Tull*'s Ploughs and other Instruments, though very well described in his Plates, and adapted to the several Ends they are designed for, yet, in both Construction and Practice, I fear, they will be found too intricately nice and perplexed in their Performance. I speak not this in Derogation to Mr. *Tull*, or his ingenious Contrivance ; no, I shall always revere both him
and

and his Works, notwithstanding the Efforts of his most malicious Enemies, who (to their Infamy be it spoken) neither have, nor, I believe, can confute him.

But apprehending both from him, and you, that the Drill Husbandry grows more and more into Request every Day, and in a little Time is likely to become the universal Practice of our Kingdom, I make thus bold (though a Stranger) to apply myself to you, who I find make no Distinction of Persons, but are willing to answer all Letters and Queries from as well Men of lower Rank, as those of higher Stations ; I therefore, in the Number of the first of these, beg you would please to let me know the several Prices of the Three-wheel Drill-plough, the Pulley-plough, and your Horse-break, being very desirous to make Trial of their Use ; and whether, if I send for them, you would be so kind as to procure, and send me along with them, an honest, good-natured, intelligent Servant, that well understands, not only the Use of the Instrument, but the different Management of the Land he is to use the same upon ; such a one I mean (or the same if you can) as you recommend in the Conclusion of your Monthly Book for *January* ; and the Wages he would expect by the Year, which I should in a great Measure refer to yourself to settle, according to his Merit. I can (without Ostentation) say he will meet with a kind Master and Mistress, and a well regulated Family. But I will conclude this too long Epistle, having incroached too much upon both your Time and Patience, and am,

Sir, your very humble Servant unknown,

J. L.

N. B. *I shall want several Things besides the Ploughs, as several of your black Kerroon Cherries, Parsnip-Apples, Orange-Pears, &c. Pray what are they a-piece ?* The

The Answer of this Letter being too long to insert here, I have omitted Writing it ; and, since I sent it, I have received another Letter from the same ingenious Gentleman near as long as this first, which I shall write a Copy of a few Leaves farther, with my Answer to the same ; for where any Letter gives an Account of any Improvements, and partly how they are made, they may be as edifying to a Reader as a Chapter on another Subject in Husbandry.

C H A P. IX.

Of the Improvement of Thetches.

OF Sowing Thetch-seed in this Month. — By Sowing of Thetch-seed in this Month, the Danger of Frosts is partly over, which sometimes, by their extreme Severity, prove fatal to the most hardy Grain, among which, I take the Thetch to be one of the Chiefest ; yet even this will *go* and *come* sometimes, as we call it in *Hertfordshire*, when it is sown very early ; that is, the Frost will so check their Growth, as to near kill them, unless milder Weather happens in their Favour, and then they may recover. Thus we say, *a Thetch will go and come* ; but sometimes they are killed out-right, by very long and hard Frosts, insomuch that some Farmers have been discouraged from sowing them between *Michaelmas* and *Christmas*, for Fear of their being thus destroyed ; which Risque may be intirely avoided by sowing them in this Month, for Mowing them in Harvest as a Crop of Corn ; for it is not too late to perform this Work, provided the Soil be either a dry Loam, or a gravelly, or a chalky, or a sandy Loam. In this Case a Farmer

may sow Thetch-feed in *April*, not only for Mowing, as a Crop of Corn, but likewise to mow green for feeding Horses and Cows in Racks, or for feeding on them in the Field, as we generally do : And likewise with our fattening and folding Sheep, as I have in last Month given a particular Account of. But, to bring all this to pass in Perfection, the Soil should be first well dunged, or otherwise dressed, in order to bring forward such a late sown Crop in due Time ; for, if Thetch-feed should be sown on a poor Soil for these Purposes, the Consequence very probable would be, that they will be too late ripe ; and then as the Days are short, and the Nights long, and the Stalks of Thetches commonly grow thick, and matted together ; if a very fine dry Time does not happen for their Drying, they will be very likely spoiled for a Crop of Corn, as I have known done more than once. Again, when the Soil is first brought into good Heart, by Dung, or Top Manures, there may be expected a forward and full Crop ; and the surer so, if warm Showers quickly succeed their Sowing ; for, when their infant Progress of Growth is thus attended with a wet Season, a timely and sufficient Covering of their Stalks will so shade their Roots, as to protect them against the Damage of long and violent Heats.

Of the Sort of Thetch-feed that may be sown in April.— Some sow the small *Lenten* Thetch, others the large Gore Thetch ; the Largest fetch the most Money at Market, as being the properest Sort to feed Pigeons and other Animals, and are likewise best to sow at this Time of the Year, for Mowing them in their green growing Condition, to give them in Racks to Horses and Cows, or for feeding them and Sheep on them in the Field, because their juicy Stalks yield the greater Bulk and Cover ; but then the large Gore Thetch requires a richer Soil to grow in, than the smaller *Lenten* Thetch, and therefore

fore it is more than ordinary necessary to dung or otherwise dress such Ground, on Purpose for nourishing a Crop of these large Thetches ; but, for the smaller Thetch, some of the better Husbandmen dress their Ground, and others not.

The Profit of Sowing Thetch-feed. — In the old and common Way of Farming, the Thetch does both *Chilturn* and Vale-Farmers a great deal of Service ; but the *Chilturn* Farmer reaps the greatest Profit of all by it ; because, as he is Master of several inclosed Fields, he can sow some of them with Thetches, that otherwise must lie fallow the following Summer ; and these in such Order, that, by sowing them at different Times, he can command both early and latter Crops of them. But what is likewise very profitable to him, he can employ his fallow Ground in the Growth of a Thetch-crop, and dress it with the same for a Turnep, or a Rape, or a Wheat-crop that is next to succeed. Here comes in a great Advantage indeed, even that which will supply the Charge of twenty Shillings each Acre of Ground, that otherwise must be bestowed upon it to bring the same into Heart, to nourish such a Turnep, or a Rape, or a Wheat-crop : Whereas if Thetches are fed off, or plowed in, they will sufficiently do it alone. Now how such a Feeding or Plowing is to be performed, to answer this, is the Question ? Why, Horses will do this indifferently well, if grazed on them in the Field ; Cows, worse, and Sheep best ; for Sheep, when fed and folded on them, leave the best of Dressing behind them. But to further explain this, I am to observe, that, when Thetches are big enough to feed Store-sheep with in the Field, the Farmer begins to set up his Fold in the same, on Purpose to fold his Sheep that feed on these Thetches. This he fails not to do every fair Night after the Sheep have been fed on the Common, or other Field, about half the same

Day, and the rest of it fed and baited in this Thetch-Field, till they get their Bellies full, for enabling them to dung and stale in a plentiful Manner : And, that these Sheep do no more Harm in the Field of Thetches than what cannot be helped, the Farmer acts the good Husband, and runs a Row of Hurdles a-cross it, to confine them to their due Bounds ; that, when one Part of the Thetches are fed enough down, he moves them farther to give them a fresh Bite, and so from Time to Time till the whole Field is fed and folded over. Thus a Farmer enjoys a plentiful Dressing in the cheapest Manner possible, even to a double Profit, one by the Seed, and the other by the Dungs and Urine of these excellent Creatures Sheep ; Creatures whose Excrements agree with almost all Sorts of Land, that thus may be improved to a very high Perfection both early and late : That is, this profitable Piece of good Husbandry may be carried on from the Month of *May*, to near *Michaelmas*, by feeding down alternate Sowings of this Thetch-seed ; which gives a Farmer early and late Opportunities of enjoying the Profit of their several gradual green Crops for his different Sorts of Cattle. If he is to feed his Horses with them in the Stable, how valuable is a Field of them that is situated near Home ? For then the Servant can mow them every Day, or every other Day, and bring them Home fresh for feeding his Team of Horses with them, that will thus enable them, with a little Corn, to do a great deal of hard Work, and, at the same Time, keep them in pure Health ; for the green Thetch, thus given, will keep their Bodies open, preserve their Wind, hinder the Swelling of their Legs, and the Cracking of their Heels ; prevent Farcies, Mange, and Surfeits ; and, in short, nourish these serviceable Creatures to that Degree, that with good Management they may be kept in good Flesh, and in good Heart, while they

they labour early and late. So may Cows be fed with this excellent green Food in the same Manner Horses are, even till the Thetch gets into its Kidding, or Podding Growth, and be given to them in the Cow-house, where they may feed on this luscious green Meat, during the hot Summer Season, and at the same Time be delivered from the Teasings of the troublesome, painful, biting Fly, and the scorching Heat of the Sun, which, when these Creatures feel in Excess, while they are confined in an open Field, it fatigues them to that Degree, as to lessen their Quantities of Milk, that, in a considerable Number of Cows, must amount to a great Loss ; and altho' it may be objected, that this is a troublesome and chargeable Way, thus to mow green Thetches, and give them to Horses and Cows under Cover: It may be well answered, that, by a Farmer's so doing, he reaps several Advantages, which he would not enjoy, if the Horses and Cows were fed in the open Field. For, *first*, by their being kept up in the Stable and Cow-house, they are prevented trampling down and spoiling almost as much green Meat as they eat, which both these Quadrupede Sorts generally do, by their Running about, endeavouring to free themselves of their Fly Enemies. *Secondly*, the Farmer, by this Means, enjoys much more Profit by their Milk ; for the succulent large Stalks of green Thetches are so juicy, when fresh cut, that they produce Abundance of Milk, while Cows feed on them in a Cow-house. *Thirdly*, they are hereby delivered from the Torment of aking Feet, which is a Misfortune inseparable from those Cows who are daily drove on hard Ground to distant Fields ; for, by such a Drift, the Cattle's Feet are made sore, even to a Lameness, by reason they sometimes are cut by the Sharpness of Stones, or if not cut, the Gravel that they take in and lodge, will not fail to give them some Pain ; and then

then the Consequence is, that such a Cow falls off her Milk, and, withall, perhaps, to a great Degree of Loss; a Loss that I have too much experienced myself, while I was necessitated to drive my Cows to some Distance, before they could arrive at the Field of Grass or Thetches; for Cows may be fed on the green Thetch, while it is growing in the Field, as well as Horses; but, for these Reasons, it is much better to feed them under Cover, if the near Situation of a Field will admit of it; and, if it does not, I am sure that a small Drift, whether it be on hard or soft Ground, will do them some Harm. *Fourthly*, Cows are, by this Means of Feeding them on mown green Thetches in a Cow-house, free of the Danger of Hoving, which is a Danger that all Cows are liable to, that feed on them in the Field; a Danger that exposes a Farmer to the Loss of all his Cows in one Hour's Time or less, if they feed on green Thetches in a wet Day, and in a high Growth of them, with a very hungry Appetite; because their sappy Stalks are then loaded with Liquor and Wind, which, if taken into their Bodies in too great a Quantity, may probably hove and burst them. *Lastly*, when either Horses or Cows are fed daily with mown green Thetches under Cover, they will make Abundance of Dung, which though it is a soft Sort, and not so good as that produced by the Feed of Hay and Corn, yet it may be made to do the Farmer great Service, if he saves it in a right Manner, and applies it as well; that is, if he preserves it from the Wash of Rains, mixes it with harder Dungs, and lays it on gravelly, sandy, chalky, or other dry, hot Soils, where such cool, greasy Dung will do most Service. And how precious a Commodity all Dungs are to a *Chilturn* Farmer especially, who rents several Fields of hungry Soils at a great Distance from Towns, which incapacitates him to receive any Benefit from buying
Dung,

Dung, so far off, when he thus enjoys it at Home in the cheapest Manner possible ; which leads me to observe further, that there is no Piece of Husbandry in all the *Virgilian* or old Way of Farming, that exceeds this of Sowing Thetches, and feeding their green Crops off with Cattle kept in the Field, or House ; for, in either Way of feeding them, they do the Ground great Service, because these, like Pea-crops, prevent the Breed of Weeds, and kill others that are old Possessors of the Field, by their great and close Cover. They likewise, at the same Time, hollow the Ground to that Degree, that one Plowing of it afterwards for sowing the same with Turneps or Rapes, or Wheat, will do where two would not, if a Crop of Thetches had not preceded their Sowing ; and when a Crop of green Thetches are eaten or mown off the Land by *May*, or the Beginning of *June*, such Land may, by only one or two Plowings at most, be brought into a fine Tilth, fine enough for receiving Turnep-seed of the forward Sort, or a late Sort ; if the forward Sort are sown, as the Seed of the *Dutch* Turnep, they may be drawn or fed off time enough to sow the same Field with Rape-seed ; and, after these are done, a Wheat-crop, or a Barley-crop, may be set on the same ; and all this performed without the Help of carrying any Dung or Manure to the Field, provided such Thetches, Turneps, and Rapes are fed off with Sheep ; for by this Means the Ground will be full rich enough to carry forward any of these After-crops to great Perfection, because the Weeds will be crippled, and the Land plentifully stored, and furnished with the nitrous Qualities of the Sheeps Dung and Urine. But the Profit of Feeding green Thetches is more than ordinary known to the Farmer that suckles House-Lambs. These enjoy their Benefit by their Ewes that feed on them in the Field, and, by this juicy Food,

Food, are capacitated for a long Time to give Abundance of Milk, that nourishes more than their own Lambs ; for green Thetches will perform all this, when natural Grass cannot, because, when this is dried or burnt up by the violent Heats of the Sun, the green Thetch grows fast, as being secured in its Roots by the Shade of its Stalks from this Misfortune ; and, indeed, in this and some other Respects is of greater Value to a Farmer, than either Clover, Trefoil, or *St. Foyne* Grasses ; for, if these artificial Grasses are fed down too close by the Sheep, their Stalks will bleed, or spend their Sap so freely, as to cause their After-shoots to grow up weak and late, if not quite kill them ; a Misfortune that the Farmer is not in danger of from his feeding a Crop of green Thetches ; because, when these are fed bare, he plows up the same Ground, and then there is an End of the Thetch-crop. This long Discourse on the Profit of Sowing Thetches I write from the Field of Practice, because I every Year sow this Seed myself ; and, what I have wrote of the same, is well known to be the Words of Truth, by those Farmers who do the like. I should now come to shew the Manner of sowing these Thetches in Ridges and Broad-lands ; but as I have, I think, done this sufficiently in a former Month, it may be omitted in this.

Of Sowing Thetch-seed in Drills. — This may be very well done by the Drill-plough, by Means of having a Seed-box cut in Proportion to the Size of the Seed ; but then the Person, who buys the Three-wheel Drill-plough directly of the Maker, may happen to be disappointed in the right Management of this Piece of Husbandry, for if the Seed is of an unsizeable Bigness, as most or all is of any Sort that is bought in a Market, the biggest Seed especially, such as Horse-beans, Pease, and Thetches, cannot be regularly dropped out of the Drill-plough, unless

less the Seed is all of an even Size, as I said ; and, if it is not, the Consequence will be an irregular Growth of the Crop to the Damage of the Owner ; for it does not concern the Plough-maker to do any more than to make the several Pieces and Seed-boxes of this Plough of a regular Size ; the Fault lies in the Preparation of the Seed, and, therefore as I have observed, no Throw, Fan, nor Screen, nor Sieve, in common Use with Farmers, can do this Thing like the small Machine I am Master of, which I sell at half a Guinea Price. Now if Thatches are to be fed in the Field with Cattle, or to be mowed green, and given them in Racks at Home ; or if the Thatches are to remain in the Field to ripen for a Crop of Corn, still the best Way of Sowing them is to do it with the Drill-plough in the Manner that I give an Account of in the Directions that I send with the Plough to the Person who employs me to buy it and send it him ; which generally takes me up a Sheet of Paper, or more, to write on that and other Matters relating to this Three-wheel Drill-plough, *Dutch Hand-hough*, and *Horse-break*, and which is so perfectly necessary to be done, that it is not reasonable to suppose that they can be managed unless proper Directions are sent with them.

C H A P. X.

The Copy of a second Letter from the same ingenious Gentleman Mr. J. L. to this Author.

December the 2d, 1743.

S I R,

I Had the Favour of your most obliging Letter of the 9th of last Month, and am fully satisfied of the Fairness of your Terms about the
N Ploughs,

Ploughs, and am long since convinced of the great Usefulness of their Performance ; but am sorry to hear there is not a skilful Servant to come along with them ; for tho' I believe and hope the Instructions, you are so good to promise you will send along with them, may be full and sufficient for the Purpose of using them, yet I am afraid it will be a hard Matter to bring over these obstinate Humdrums from the old beaten Road of their Grandfathers.

Had I myself been ever used to Plough-holding, or been of Youth and Vigour sufficient for such an Undertaking, the great Regard, I have always had to every Branch of good Husbandry, would have made it a Delight and Pleasure ; but being near entering upon my great Climateric, and, with the ingenious Mr. *Tull*, having for many Years been tormented with the Stone, Gravel, and other Infirmities (the natural Attendants on old Age) have rendered that pleasant Part of Life almost impracticable, any farther than viewing and directing my Men, when they please to be directed in their Husbandry. This pleasant Path, together with Building, which I have likewise had a Share in (and I can say, without Ostentation, not without something of Oeconomy too) these two Things, I say, have mostly taken up my Time for twenty or thirty Years past ; so that at this Age, and under these Circumstances, you will allow me to stand in Need of a good Assistant. I would therefore still beg the Favour of you to recommend and send me a good Ploughman, if possibly you can ; I mean such a one as not only knows the Use and Handling of your Instruments, but also to convert and turn his Land to its various and proper Uses and Purposes, of which I must own myself no great Adept. My Land is generally a good dry Hasle Surface, and pretty deep, only some few little Risings that tend
a little

a little more to Gravel, but not without a Mixture of good Soil too ; I have mostly got it into broad level Lands, which I think you recommend as more proper for Drilling than the Ridge-lands are. As to the Servant's Wages, I should leave it intirely to you to agree with him. The Ploughs might be sent by Water to ——— where I could order them to be taken in and sent up a new Navigation to—— eight Miles Distance from my House, whereas —— is Thirty-one. If the Trees could not conveniently come along with them, I could order them to be taken in by the Carrier as he comes through *Dunstable* in the Spring Season, as you direct. As I always have and shall be a constant Customer and Admirer of your very useful Books, so I the rather hope for your Indulgence, and that you will excuse this Trouble given you by, *Sir*,

Your most obedient humble Servant,

J. L.

P. S. I hope you will favour me with a Line at your Convenience, about the Servant ; and then I will give you proper Orders about the Ploughs, &c. and order the Money to be paid you by a Friend in *London*.

The Copies of this Author's Answer to the fore-mentioned Letters.

S I R,

IT is with great Pleasure that I hear my Labours are attended with such Success, as to do my Country Service : For to this End and Purpose I have been at extraordinary Charge and Pains in travelling several Years to acquire a Knowledge, that I could not

possibly attain in the Country I live in. And altho^o I never met yet with a suitable Encouragement for my Expences and Labours to serve my Country, by Reason it is not in my Power to make the most of my Writings ; yet, as I take Delight in doing the World what Good I can, I the more easily dispense with the Disappointment. A Letter from a Gentleman acquaints me, that by the Description I have given in my Monthly Books of Peat Grounds, and how to find them, he has discovered such Ground in his Estate ; and, having burnt some Quantities of it, its Ashes have surpris'd all the Country about him, by their making use of them as a Manure according to my Directions, for increasing Crops of Grain, natural and artificial Grasses, Turneps, and many other Sorts of Vegetables, of which Sort of Discovery I am the first of Authors ; and, how valuable such a Discovery must be in Time to the King's Dominions, may be easily comprehended from the infinite Advantages that in Course will arise therefrom, both in Gardens and in Fields, as I have in Part given an Account of in my Works ; and, since this Letter came to my Hands, I hear another Gentleman has had the like Success, who was greatly reduced in his Circumstances, but by this Discovery is like to be re-instated in his former splendid Condition. Another informs me, he has received a surprisng Advantage by putting in Use my Salt-petre Receipt, that produced him six Quarters of Barley on an Acre of a wet, clayey, flat Soil, where three Quarters were deemed a good Crop ; and in another County, by Vertue of the same *Menstruum*, where they used to have, in a very dry Summer, but a Coomb, or four Bushels of Barley on one Acre, their poor, sandy Lands have yielded as many Quarters in such a Season. Another, that my excellent Receipt, for preventing the Rot of Sheep, saved his whole Stock in the Year 1735, that was thought to be the most fatal Year for

for rotting Sheep known in the Memory of Man ; a Truth vouched to my Face by no less a Person than a Member of Parliament, since deceased. Another that a Banking-plough I sent him, is like to clear a Park of three Hundred Acres of Mole or Pissum Banks, which are so large, that I hear they have been making more than a Century. Another on the Receipt of the Drill-plough, and Horse-break, says, that he approves of them on first Sight, and admires them, as a most ingenious Contrivance ; and so several others who have received great Benefits by Means of my Writings that have gone into the World.

The Copy of an Answer sent to this ingenious Gentleman's second Letter, by the Author.

Little Gaddesden, 18 December, 1743.

S I R,

YOUR Letter of the 2d of December is with me, and I since have endeavoured to get a well qualified Ploughman for your Service, that might answer your Desire ; but it is not in my Power so to do this Time, because I cannot engage one to my Mind ; and I am the more timorous on this Account, lest I send you one that will risque my Reputation, as being not duly capacitated for your Business, for then it is doing you and myself Harm ; which obliges me to write to you, that the Three-wheel Drill-plough is so cleverly contrived, that it will work the steadiest of all Ploughs ; insomuch that it is apt to make the Ploughman careless, and let it be drawn throughout a very long Furrow, without his laying hold of its two wooden Handles, which Property of this excellent Plough is in Favour of a Novist Ploughman ; because most, if not all other Ploughs, require more Skill and Pains to hold
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for guiding them right than this does, by Means of the Support of its Third Wheel. And altho' it has Three Wheels, wrung with Iron about two Feet Diameter each Wheel; yet it may be justly called a *light Plough*, lighter than the Two wheel Turnwrist-plough, the Two-wheel *Hertfordshire* Fallow-plough, the Two-wheel Chip-plough, or Two-wheel West-country Sull; and as the Seed is contained in a Hopper, that holds something more than a Peck, there cannot well be any Mistake committed in dropping it out in too little or too great a Quantity, or awry, by reason it is confined to a right and regular Discharge of it into the Furrow, immediately after the Share has opened it. There is here likewise less Danger in the making a straight Furrow, than in the working of any other common Plough; for that the Hind or Fill Horse is fastened in a pair of light wooden Shafts that is always fold and sent with this Plough; and, if there is any other Horse or Horses to be added, they draw in a single Length, and not double in a Breast, as ours do in our *Hertfordshire* Wheel-ploughs. And as for shifting the little Seed-box, it is easily and presently put on the round solid Iron Spindle, whether it be that for Sowing Wheat or Barley, or that for Oats, or that for Beans, or that for Pease, or that for sowing Grass or Turnep-seed out of it; and, when one of these is fixed on a Spindle, it is not to be taken off and shifted, till all the particular Seed is sown by it; so that there is not that Difficulty in the working of this plain Plough, that, perhaps, some may apprehend; and therefore by such plain Directions as I shall send with it, and your Judgment withal, I presume a Ploughman of your own will be capable of managing this Three-wheel Drill-plough, Horse-break, and *Dutch* Hand-hough to your Satisfaction.

The next Instrument, that I shall remark on, is the most profitable Horse-break, which is so plain a Tool, that there is no Difficulty, I believe I may say at all, in understanding how to work it; because, when this is to be made Use of, it is only taking off the Drill-plough from the Carriage, and fastening it by a Swivel to the Horse-break, which is done in a Trice; and then a Horse draws it between the drilled Rows of Beans, or Pease, or Turneps, &c. to tear and loosen the interval Earth, that by the Earthen-iron is turned in an Instant on the Roots of Corn or other drilled Vegetables; for this Horse-break, by its several light Irons, is of great Service, not only in Fields, but likewise in Gardens, where there is Room enough to work it, as being the very best Machine that ever was invented by Man-for drawing between Rows of Nursery-trees to clear the Ground of Weeds, making it fine and porous, and then laying it on their Roots; all which Three great Services this particular Sort of Horse-break performs at one Draught-Motion, in the most easy, most expeditious, and most cheap Manner; so that a Gentleman, who buys this Instrument, is furnished with one of the best Conveniencies for improving his Garden-beans, his Rouncival Pease, his Savoy, his Cabbages, and many other Sorts of culinary Plants, by drawing this Horse-break between their Rows once or twice in the Season. Therefore, whoever sends to me for this Horse-break, they should let me know not only the Use they intend to put it to, both in Field and Garden, or plowed Orchard, but likewise the Nature of their Soil and its Situation, that I may order one to be made according to the same; which is an Advantage any Person has by sending for these Instruments more certainly than by sending to the Plough-maker for them, who, in Course, would
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make them at random, for there are several Dimensions of its Wood and Irons, and Fashions of its Making.

A Third Instrument is the *Dutch* Hand-hough, that costs about half a Crown or three Shillings; this is likewise of vast Service, when made Use of in cleaning the Interspaces of the Land, between the Rows, or Drills, of Wheat, Barley, Oats, *Lucerne* Grass, and such like Vegetables; because, when these are sown in Fields, they are generally drilled in at twelve Inches Distance in Rows, which does not allow Room enough for drawing the Horse-break between them; besides, as all these have very tender Stalks and Roots in their green Age, they are not able to bear the Pressure of so much Earth that must be laid near them, if the Horse-break was employed, which a Bean, a Pea, and other stronger Vegetables can more easily endure, much less a Hough-plough. Again, by the Sowing of these smaller Seeds at a Foot Distance their Rows, there is the more Ground employed, and in Course more Corn obtained, than if they were sown at a much wider Distance in Drills, for their being houghed by a Horse-plough; and it was partly, I suppose, for these Reasons, that the Horse-hough-plough came into less Use and Reputation than formerly, because it took up considerably more Ground to work in, than this *Dutch* Hand-hough, or Horse-break, which supply the Roots of Vegetables with the Food of fresh Earth in a much safer and more profitable Manner.

The fourth Instrument is one that I have not yet particularly described in my Books, because a single Gentleman, about your Age, and of a Thousand a Year Estate, lately invented it, and sent it me by a Waggon, seventy Miles, as a Present, desiring me, by no Means, to make it publickly

lickly known, that I might, with the more Assurance, enjoy its profitable Properties ; which are, *First*, It will separate all the small from the larger Kernels of Wheat and Barley, and likewise free them from the Seeds of Weeds, which neither the great upright Wire-screen, nor any of the common Sieves, nor Fan, nor Throws by the Casting-shovel can do : From whence arises this infinite valuable Conveniency, that a Person may, by this Means, obtain the boldest, largest, and cleanest of Seed ; and then he has a sure Reason to expect a Crop will yield a Grain of a proportionable Goodness to such sown Seed, and he thus become Owner of Crops of Wheat, or Barley, that none in the Country besides can equalise ; for this one single Tool prepares the Seed of both these for Sowing in the greatest Perfection, and, by this, he will not only sell his Grain sooner than his Neighbours can, but likewise for a greater Price. This is Fact, and what, I will engage, it shall perform, provided the Ground is first duly prepared by several Plowings, till it is got into a fine Tilth. How valuable then must such an Instrument be, not only to all Gentlemen and Farmers who sow more or less of these Grains, but also to the Nation in general, may be easily comprehended from the Account I have here given of it ; for if all our Farmers can get larger-bodied Grain than heretofore they have done (which they may easily do) it will not only sell for more Money at Home, but likewise Abroad, beyond any that is exported into foreign Parts by other Nations, that know not the Use of this Tool, or any other that can perform the like Effects. Thus *Great-Britain* and *Ireland* may receive infinite Advantages by the Use of this Tool ; and, as Trade is the chief Support of these Nations, I hope, I shall hereby (as I have done in many other Branches by my

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public

publick Writings and otherways) greatly contribute to my Country's Welfare. Now this most serviceable Tool is of so small a Bulk as to lie almost in the Room of a Peck Loaf, and so cheap, that I can afford it among other Things that may be bought of me for half a Guinea Price; and, as it is so small an Instrument, it may be safely carried to great Distances for the Charge of a Shilling or two, to pack it up between Boards, for defending it from Casualties. This Tool, therefore, if you please, I will send with the Drill-plough and Horse-break and *Dutch* Hand-hough, and then you will be compleatly set up to enjoy *multum in parvo*. But then, by all Means, the Knowledge of it should be kept as private as possible; for, if it is publicly known, and others use it as well as you, you will not have the Benefit of it in so large an Extent as otherwise you may; yourself for Diversion or Exercise, or a Man, or Boy, or Girl, or Maid-servant, may select the best Seed by it; for this small Tool is not to be used till after the Wheat or Barley is prepared for sowing in the common Way of preparing it. And, if you are desirous to oblige an intimate Friend with this Tool, I ought to have the Privilege of sending it him; for, indeed, it is my just Property by the free Gift of a generous Gentleman, who, by falling in Love with my Books, was pleased thus to endeavour my Interest, and make me the sole Proprietor of his ingenious Invention; and if other Gentlemen would do somewhat of the like, in any other different Manner, an Author, as I am, would be encouraged and enabled to send into the World such future Works as would be of great Service to it; for I am not only forced to travel now and then, but to be otherways at great Expence, for obtaining those
useful

useful Secrets, which else, perhaps, might never be known in Public.

I am sorry to hear of your Affliction by the Gravel and Stone ; I know a Gentleman of eighty Years of Age, who has partly preserved himself from the fatal Effects of the Gravel, by Means of taking now and then as much scraped *Castile* Soap as will lie on a Shilling in warm Ale ; for this Ingredient is well stored with the Salts of Vine-ashes, and is of a most slippery Nature. I can tell what will prevent any Person's having the Wind-cholic, half a Year together, for Two-pence Charge ; not that I pretend to the Knowledge of Physic, but to make known what I learn, confirmed by the long Experience of others and myself : And I advise you, for your Distemper, to drink, chiefly, a Table-beer made only with Treacle, or Molossoes, and Water ; boil nine Pounds Weight of this in thirty Gallons of Water, without Hops, one Hour, and work it with Yeast. It is of a moderate opening Nature, and, therefore, very much prevents the Breed of the Gravel and Stone, and other Diseases, too long to mention here ; inso-much that I have known some that dare not live, without the Use of it.

As you observe the Drill-plough and Horse-break may be commodiously sent you by Water to ———, and, as all the Instruments may be made in three Weeks, from the Time of my ordering their Making, they may be sent you soon enough to sow Beans, Pease, Barley, Oats, or Grass-seeds ; and, if you please, I will send you one Bushel in all, to breed more from, of the biggest Sort of Pease in *England*, the grey Rouncival, an excellent eating Pea, both green, and when full ripe, with Bacon, Pork, or in other Forms ; or, the great blue Rouncival Union-pea, or the Rouncival White Non-paril Pea, or a

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Bushel

Bushel of each ; for these will grow well, if drilled out of the Three-wheel Drill-plough, and afterwards horse-broke. These I sowed in Drills this last Spring, and had a good Return.

I have just been sending Kerroon Cherry-trees, Parsnip Apple-trees, Beechen Sets, and white Elder-tree Cuttings, to two Gentlemen in the *North* ; and I would advise you to let me send you a Quarter of a hundred of Kerroon Cherry-trees, by the Ship the Plough goes by, for they will cost you but one Shilling a Piece, besides Carriage ; and, by a particular Way of packing them up, they will keep without Damage a great While. I am,

S I R,

Your most obedient humble Servant,

WILLIAM ELLIS.

P. S. I have just now met with a Ploughman Servant, who, I believe, will answer your Purpose. He expects — a Year. I will have his Character from his last Master, and, if it is to my Satisfaction, he shall come ready qualified to hold the Drill-plough, Horse-break, &c. Please, therefore, to let me have your speedy Answer.

C H A P. XI.

Of Plowing.

OF the great Importance of timely and skilful Plowings.—— This Month of *April* is the first and most general Month in the Year, which

is observed; throughout the *Southern* Parts of *England*, for Fallowing, or first Plowing up all such Lands, the stiffer Sort especially, that are to be sown with Wheat, in *September* or *October* next. And, as this is the main Article in all the Art of Husbandry, it requires the greatest Care to observe; for many have been ruined for the Neglect, or the unskilful Management of it. And, although it is of all this great Consequence, yet, I am bold to say, that no Author of all the more learned Number than myself, has given a tolerable Account of it; for neither the Logician, nor Rhetorician, can here display their Parts, without knowing the Field-practice of this superlative Art. The most ingenious Mr. *Tull*, who has exceeded all Authors whatsoever, myself included, in Writing on the Drill-Husbandry, has hardly medled with the common Art of plowing Land, neither in *Chilturn* nor Vale-Countries; an Undertaking of great Difficulty, because of the many different Soils that are to be plowed with various Sorts of Ploughs, proper to their several Natures and Situations, in the most convenient Seasons of the Year. This Subject is so copious, so diffusive, and so ambiguous, that, at best, I must profess myself a deficient Author in my Writing of it; nor could I do what I do, had I not travelled for improving my Judgment, by ocular Demonstrations, as well as by the Conversation of Thousands; which gives me some Reason to say, with Submission, that I have exposed many Branches of this excellent Art of Plowing, even more than any one before me has done. The Gentleman is above concerning himself in the practical Part of this Instrument, the Plough: The Farmer is the farthest of Men from discovering his Ways of managing it; and the Ploughman Servant the most of all out of the Question; so that here
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appears little Room to expect this Art should be published in Books, by a Practitioner of it, notwithstanding the great and necessitous Reasons there are for so doing; for it is undoubtedly the Duty of all true Subjects of the Common-wealth, to endeavour its Welfare, and contribute what conveniently lies in their Power towards making it a Land flowing with Milk and Honey; that is to say, with all Kinds of Plenty, that we may be able not only to enjoy this ultimate End at Home, but be capacitated to furnish foreign Countries with our Commodities, that are chiefly raised from this famous Art of good Plowing, and which we can well spare as our Super-abundance, to the infinite Advantage of Trade in general. If Ground is not rightly and duly plowed, how can the Farmer get sufficient Crops of Corn, artificial Grasses, Turneps, Rapes, and many other serviceable Vegetables? And, if he has not full Crops, how can he breed and feed Cattle in Perfection? And, if this is not his Case, how can he become Owner of those Quantities and Numbers of Things requisite, in the first Place, to enable him to pay his Rent, to maintain his Family, and do his Country Service? In short, was I to enumerate and display the many Advantages accruing to a Nation from the Use of this excellent Instrument, the Plough, it would take up *Folio* Volumes to contain them, and I must shorten my Pen in this Place from enlarging so much as I otherwise would do.

Of the Difference of Ploughs, and why some are more proper to plow particular Soils than others.
 —The many Sorts of Ploughs, now in Use in this Nation, shew the Necessity there is of employing a right one in a Soil proper for its Working; and, although some Ploughs have been made Use of Time out of Mind, in certain Places, as the
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best Sort that could be got and employed, as being believed to be such, that none could be invented to exceed them; yet Time, Ingenuity, and Experience have proved such their assured Opinion to be wrong founded, and convinced many Farmer, that others, lately discovered, have better supplied the Room of the old Ploughs; witness, the Two-wheel Jockey-plough of *Norfolk* and *Sussex*, where, before this, they made Use of the Foot-plough; likewise, the Two-wheel Chip-plough, the Draught-plough, the One-wheel Plough, the Fen-plough, the Bobtail-plough, the Patent-plough, the Two-boarded Swing-plough, the several Drill-ploughs, and others that I could name; which are all, or most of them, new-improved Instruments, that perform their Work much better, than the old-fashioned Foot or Wheel-ploughs; and it is from hence that I take the Opportunity of Remarking on the Benefit that some Farmers enjoy, in laying by the Use of a certain very large Two-wheel Plough; a Plough rather more weighty than the great *West Country* Sull, and more poissant and bulky than any of our *Hertfordshire* Sort of Two-wheel Ploughs. This Plough, I say, several Farmers laid by for using a better one in their gravelly Soils, called a *Swing-plough*, made with two Boards on its Sides; one called, *the Mould-board*, lying in a straight Posture on that Side of the Plough *next the Land*, as we call it in *Hertfordshire*; the other is a Bending-board, fixed on the Furrow-side of this Plough, which, by seven or more Notches in an iron Cock, at the End of the wooden Beam, is fastened to the Geers, and them to the Cart-saddle on the Hind-horse, by which it becomes a Swing-plough, because it partly hangs on these Geers at Turnings at the Land's Ends. Now, this Plough may be made to be not only One-third Part lighter than the old
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Two-wheel Ploughs that were formerly used in its Stead, but it is to be drawn by Horses in single Rows and one in four less in Number than was employed to draw the Two-wheel Plough double in a Breast ; which is a Conveniency of very great Service to a Farmer, for, by this Mode of Drawing, the Horses go in the last Furrow, and thereby miss Treading and Baking, as it were, the Ground down so close, as to make the Plowing of the less Service. The next Conveniency is, that this Sort of Swing-plough will plough the Ground much shallower, than any Pecked-share Wheel-plough can, and yet deep enough, upon Occasion ; when it is wanted to plow shallow, it is much to the Advantage of all such Wheat, or Bean, or Pea, or Thetch-feed, that is first sown Broad-cast over the Land, and plowed in, because, by this Means, if the Surface of the Ground was in most Heart, as it generally is, it is to the Benefit of the Crop ; for, in Case Rains fall in a plentiful Manner after Sowing, the Goodness of the Top-earth will wash down on the Roots of the Corn, and greatly nourish them ; or, if very hot and dry Seasons follow, the Roots will lie much securer from the parching and sometimes fatal Heats of the Sun, than those from Seed only harrowed in. Another great Conveniency of this Swing-plough is, that, whereas some of the Two-wheel Sort of Ploughs, in working among stiff Loams or clayey Grounds, will carry along with them near half a hundred Weight of Dirt, which they gather up and lodge by its wooden Sheaf, its hind Staple, its two-mortaised iron Share, and other of its wooden Parts, so that the Horses have a much greater Weight to draw through such stiff wet Soils, Days together, and the Ploughman a much heavier Plough to guide, and Burthen to bear at the Land's End, while such a Two-wheel Plough, thus loaden, is turning
round

round at it, when great Part of this Fatigue and Damage is much of it avoided by the Working of this lighter Swing-plough, that by its two Boards is made capable of resisting the Lodgment of much Dirt or Stones, by Reason the two broad Boards fling them off, and leave them behind ; so that this Plough works in light and clean Order, both for Horses and Ploughmen, in any Sort of Ground it is used in. The next and last Conveniency, that I shall here mention of this excellent new-invented Plough, is, that it comes to little Money when made. The Wood, the iron Socket, Share, &c. and Making, amounting to no more than one Guinea in all ; which is so small a Price, for so useful a Plough, that, I think, none can well grudge to lay out this Money for an Instrument that will do all Manner of Work in gravelly, chalky, sandy, and in dry, and wet loamy, or clayey Grounds. In short, it is the most general Plough of all others that I know of, for Plowing in all Grounds, except in Ridge Vale-Lands, in Fen-Lands, in Marsh-Lands, and too stony Lands, which are Soils that require, each of them, one particular Sort of Plough. Now this cheap, light Swing-plough I furnish to any Person for the Price before-mentioned, paying me for my Charges of sending it him.

Of Plowing Ground in this Month, preparatory for sowing the same with Turnep-seed hereafter. — This Discourse is not writ in Behalf of the Vale-Farmers, who rent such low, wet, stiff Land, as forces them to lay it up in a Ridge Posture, for avoiding the Damage of Inundations of Waters ; because it is not to the Interest of those to sow Turnep-seed, for Reasons I have heretofore shewn in my Works, altho' the same is so much in Favour of the *Chilturn* Farmer, that, next to Wheat-crops, I believe I may say, Turnep-crops are

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the next chiefest Profit, because they not only employ the Land the fallow Year, and lay it under a profitable Crop, while it would otherwise lie idle ; but, by the Turneps being fed with Sheep, the Farmer obtains a Dressing worth sometimes twenty Shillings an Acre ; for such Dressing oftentimes so enriches the Ground, that with a little more Help (and sometimes it will do the Feat without any) it will return the Farmer an excellent Crop of Wheat, or Barley ; but, as a full Crop of these is not to be expected, unless a due Preparation is made for the Turnep-crop, a right *Cbiltun* Husbandman takes timely Care to fallow, or, to be plainer, plow up his Bean, or his Pea, or his Oat Stubble in *November* for the first Time, in order to let the same Land lie to be improved by Frosts and Snows ; for, if these happen in any great Degree, it will be much the better for it ; the Frosts will sweeten and shorten it, and kill the Weeds, which perhaps hereafter would greatly damage the Corn-crops, that are to succeed. The Snows likewise very much contribute to improve the Land with their nitrous Quality ; but I must check my Pen here, and forbear Enlarging on this, for a more proper Opportunity, and say, that, after the Ground has been once plowed for Turneps, we commonly let it lie till this Month, before we plow it a second Time, which is called the first Stirree for Turneps, in order to plow it a third Time in *May*, or *June*. But to be more particular in this my Account, of preparing Ground for a Turnep-crop, whether it be a gravelly Loam, a chalky Loam, an intire short Loam, or a stiff Loam ; I say, whether it be any of these, we in *Hertfordshire* generally plow an Oat, or Pea, or a Bean-stubble up, the first Time in single Bouts, a Form the best of all others, because it lays the Earth up in the highest Posture

Posture that a Plough can do it in, and thereby exposes it to the Power of the Air, and consequently to the Frosts in the most exalted Manner, for the Destruction of the Seeds of Weeds, and Shortening and Sweetening the Ground ; which it seldom fails to do, because it has a whole Winter Season to do it in. Then, as I said, in *April*, a judicious Farmer will plow it a second Time, by bouting it again off the last Bouts ; and then, I believe I may say, the whole Surface of the Land has been removed, or stirred to Perfection ; yet that it may be made intirely fine and sweet, in the next Month of *May*, this same Land is to be back-bouted, and thereby prepared for the Work of the Harrows, for these have not been made Use of all along ; now, about the latter End of *May*, the Harrows are to be employed in harrowing the Earth plain, in order for the Farmer to lay on it his rotten Dung ; which when spread all over the same, in *June*, he will plow it into the Ground, and then the whole Surface of the inclosed Field is ready to receive the Turnep-seed, that is to be sown and harrowed in. Thus I have given one particular Account of the Process of preparing an Oat, a Pea, or a Bean-stubble, for a Crop of Turneps. But there are several other Ways of doing it, according to the Nature of the Earth, and a Farmer's Fancy, which, if I was to write here, would take me up more Room than I can at this Opportunity spare ; and, therefore I shall proceed to observe, that where a Farmer designs to get so early a Crop of Turneps, as to draw and sell in *July* or *August*, or sooner, he ought to prepare his Ground accordingly ; which leads me to write on farther Particulars relating to Turnep-crops.

Of Sowing Turnep-seed in April, for drawing Turneps to sell in June, or July. — To do this, the Soil should be of the warmer, lighter, and drier

Sort; and therefore a gravelly, a chalky, a sandy, or dry Loam ought to be the Land chosen for this Purpose; for, to bring this Design to good Effect, the Earth must be proper for it, as well as the Seed. Now, according to the Nature of the Ground, so should the Plowings be performed; if it is a sandy Soil, it ought not to be plowed so soon as *November*; it will be better done, for the first Time, in *February*, and again in *March*, for sowing it in *April* with Turnep-seed, for this Soil is presently made fine; if a Chalk, or a Gravel, they may be plowed, the first Time, in *December*, or *January*; if a Loam, in *November*, for several Reasons I could assign; but I shall wave a Discourse on these Soils, for another Place, and here take Notice, that when the Ground is duly plowed, and dressed ready for Harrowing in the Turnep-seed, the only Sort, for growing quick into a Crop, is the Seed of a *Dutch Turnep*, which, in a rich Soil, if the Weather is favourable, will grow into Turneps big enough to pull in less than three Months Time; and, as they, at this Time of the Year, run very expeditiously into such a serviceable Size, their Skins will be thin, and their Inside excellent, for growing in these sweet short Soils; much sweeter, than those that grow in stiffer Grounds, or where any others are loaded with a rank Dung; and, for this Reason, it is, that our *Hertfordshire* Turneps carry the Bell, or Preference, at *London*; because those, that we send there, generally grow in a gravelly loamy Soil, first dressed by the Dung and Stale of Sheep, or by preceding Crops of Clover, or with Clay, or Peat Ashes, &c. which are all sweet Nourishers of these delicate, white-skinned, flattish Turneps. And, when a Farmer can get an early Crop of them, he enjoys the most profitable Opportunity of all others in selling them for the most Money;

Money ; the first Turneps at Market make the Rarity, and that the greater Price ; for it is both a great Pleasure and Conveniency to eat these Turneps in *June, July, and August*. A Pleasure, because it is a very sweet Sort of Turnep, when timely drawn and sold ; and no less a Conveniency both to the Townsman and Countryman, because an early Turnep is generally the first cheap, serviceable Boiling Root, that all can make Use of ; and this the Farmer in Particular experiences, when he can have them to boil in Harvest-time, with his Bacon, Pork, or Beef. Thus I have given you a short Account of sowing Turnep-feed in the old Broad-cast Way of sowing it ; which I have further and more particularly wrote on in my former Works.

Of Sowing Turnep-feed in Drills in this Month.— This Mode of sowing Turnep-feed in Drills, I am sensible, is a new Piece of Husbandry, known to few, and consequently the Proposal slighted by many ; as almost all new Improvements are, till they, by many Years Experience, become Persuatives of Imitation. But, as I am an Author, it is not my Business to retard my Pen on that Account ; for, if I can shew the rational Practice of a new Improvement, I think myself under no Obligation to forbear publishing it. And this of sowing Turnep-feed in Drills, I am certain, is a most rational Invention, because many Acres, I may say, great Numbers of Acres, that have been sown this Way, have proved the profitable Effect of sowing Turnep-feed in this Form ; witness not only what that excellent Author Mr. *Tull* has wrote on this Head, and experienced besides ; but likewise what the late very ingenious Sir *John Dalrymple* mentions, in his Letter to me of sowing Turnep-feed in Drills, which he says produced
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larger Turneps than he ever saw in *England*; because, I suppose, he dressed the Ground thoroughly well in the first Place, and then drilled in the Seed in a right Depth, as you may observe by the Copy of his valuable Letter that I inserted in my last Monthly Book for *March*. And I do say the like good Piece of Husbandry may be as well acted in *England*, as it was by him done in *Scotland*. His Turnep-feed, I suppose, was drilled in a stiff Soil, because he says he drew the Turneps, and carried them into another Field, which I presume was a Meadow, or drier Arable Soil, where the Sheep could feed on them in clean Order, without stolching the Ground, or daubing the Turneps; for Turneps ought not to be fed off by Sheep in very wet, stiff Land, because it will help to rot them, instead of fattening them, if they are forced to feed on such Turneps some Time; and therefore Sir *John* was very much in the right of it, to draw them out of this Soil, and feed the Sheep on them in a better; which not only contributed to the Health of these most valuable Creatures, but their Dung and Urine would better agree with a dry Soil, than a wet one. Now, to do this Piece of good Husbandry in this Month, sow the Seed out of the Hopper of a Drill-plough, by a Seed-box cut purposely for the same Use; and, if the Earth is so stiff that it will not fall in of itself, immediately after the Seed for covering it, a light Harrow must be drawn over the Drills, and it will do it effectually. Thus you may sow Turnep-feed in Drills at one, two, three- four, or more Feet Distance the Drills, by the Three-wheel light Drill-plough; and where it is thought proper, Rape-feed may be sown in the Interspace or Interval between the Drills, as Sir *John Dalrymple* did, to the highest Improvement of the Ground. And why Turneps thrive best,
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and grow largest, and sweetest, by being sown in Drills, is easily made appear by rational Proofs.

Of Sowing Pease between the Drills of Turnep-seed. — At the same Time that Turnep-seed is drilled in this Month, you may drill in blue Pease, or white Pease, in the Intervals of Earth; that is to say, after you have drilled in your Turnep-seed at four Feet, or more Distance, throughout the Field, you may, in the next Place, alter the Seed-box, by putting in that which is made to sow a large, or small Pea, and drill them in Drills made at eighteen Inches Distance, or as the Owner thinks fit, between the Rows of Turneps; by which Piece of Management, the Pease may be houghed at the same Time the Turneps are, if the Ground is in rich Order, and a kind Season of Weather timely follows; and, as these two Sorts of Vegetables are sown much at one and the same Time, they may, perhaps, be got off near the same Time, especially if a forward Hotspur whitish Pea is sown among the Turneps; for then both Turneps and Pease may be so early cleared from off the Ground, that either a Crop of Winter Turneps may be had off the same, or a Rape-crop set on; or Wheat may be sown in *September*, or *October*, to succeed the Turneps, and Pea-crops. This is Husbandry, indeed, and which may be carried on in a Thousand and ten Thousand Places, where they practise no such Thing; nor can it be expected to be done, unless Gentlemen of brighter Parts, and heavier Purfes than Farmers have, lead the Way, and convince them by the only Rule of Persuasion, ocular Demonstration, and Experience; for, indeed, it is the Interest of most Gentlemen, who are possessed of landed Estates, so to do; because, by this, they will have their Rents better paid, as well as the Tenant secured from Breaking. The Example of Mr. Clements, Land-lord,

lord, that I have formerly mentioned in my Works, making a Present of the Three-wheel Drill-plough to him *Gratis*, and sending it him by the Sea three Hundred and more Miles, I should think, might prove a sufficient Incentive to many others to do the like ; for, if his good Landlord had not found out and learned the great Advantage of this excellent Plow, it is very probable his Tenant had not enjoyed it in his Life-time, and then he would have been deprived of that valuable Opportunity of Sowing the same Field every Year with Corn, or artificial Grass, or Turneps, without impoverishing the Ground, free of suffering the Loss of every third Year's Crop, according to the common *English* Mode ; which obliges a Farmer to leave it fallow that Year for Plowing the Land several Times, only to fine and sweeten it for the Reception of a Wheat-crop, &c.

Of the great Service a Crop of Rapes is to a Farmer in April. — The Value of this most serviceable Vegetable is known to few Farmers in this Part, where I live ; and therefore few, very few there are, that sow the Seed of them, because we lie too far from *London* to enjoy the Benefit and Advantage of them in the Manner that some do, who live nearer that Metropolis, and carry on the Suckling of House-lambs. I know of none within a pretty many Miles of me, that sow this Seed, besides a Nobleman's Bailiff and myself. The Nobleman's Bailiff sows it for his Master's Store-sheep, for feeding his Weathers and Ewes in *March* and *April*, and I mine ; for then we bait them a few Hours in Day in the Rape-field, as the only green Meat we have left, because it is the Case of many to be without any other at this Time of the Year than this of Rapes, by Reason artificial and natural Grasses, as well as Turneps, are generally eaten off before these Months. But the main
Design

Design of sowing Rapes is to feed Ewes that suckle Lambs, either for fattening those Lambs that are brought up in the House, or the Field, and for the Service of the Kitchen. It is these Rapes that are of so hardy a Nature, as to withstand the Violence of Frosts, beyond all the Garden Ware of this Tribe; when Cabbages, Savoy, Brockly, and the like were killed by the Vehemency of the Frosts, these have stood sound, and supplied their Room, as several Acres of them did in the hard Frosts of 1739 and 1740; and, had it not been for these serviceable Plants, there had many Lambs been lost; therefore, whether in frosty or open Weather, in these Months, the Rapes are of great Value, as being not only a most succulent Plant, that produces a great deal of Milk, but they likewise fatten Sheep and Lambs very expeditiously; so that no Farmer, that is Master of a proper Soil in a convenient Situation, ought to be without the Enjoyment of this excellent Food.

Of Plowing and Preparing Ground to sow Rape-seed in.— This Seed agrees best with stiffish or moist Loams, but it will grow well in dry Loams. The Management lies in the Sowing them accordingly. If Rape-seed is to be sown in stiff, moist, or wettish Loams, the Ground ought to be sowed betimes, even sooner than this Month, for reducing its surly Nature into fine loose Parts, by the Month of *July*, when this Seed ought to be sown in the same, that the Rape-roots may enjoy good Part of the Summer's hot Season for forcing them to take large Hold of the Earth, and get forward Heads against the trying Winter's frosty Seasons; by this the Plants will meet with the best Security against hard Weather, and yet, for all such a forward Sowing of this Seed, that Rape-seed, sown in a dry Loam in the Month of *August*, is oftentimes as forward in its Growth, as that

sown in a wet Soil in *July*. Therefore whether Rape-feed is to be sown in *July* or *August*, in a stiff or drier loose Soil, the Ground ought to be early and duly prepared, for the Harrowing this Seed in; and, as Rape-feed is commonly sown on the fallow Ground, if it has not been plowed up before this Month, do it now, either by Broad-land Plowings or Bouting it into single Bouts, or in what we call *Four-thoroughed* Lands, or in three or four Boutlands, or in broad Ridge-lands. These are all the best Postures that Land can lie in, that is of this stiff Nature, for the first Plowing of it, in order to get it sweet and fine; for it cannot be too fine for this small Seed; because, in Case a Person was to attempt the getting a full Crop of Rapes in a stiff, sowre, clotty Soil, if a great deal of the Seed is not buried so as never to grow, the Plants will be the longer enlarging their Roots, and getting a flourishing Head against Winter; and then, perhaps, when they are to be fed, there are only half Plants or Rapes; and what a Stunted Crop of Rapes, or any other Vegetable, yields, a Farmer knows by the Loss he sustains by his bad Husbandry; but this Seed is not always sown in Tith Grounds; for, where the Land is of a shortish, dry Nature, it is oftentimes sown on Oat, or Pea, or Wheat, or Barley, or Bean Stubble on one Plowing only, and Harrowing in the Seed after Harvest; and, when the Weather proves propitious, there are many good Crops of Rapes got this Way. But, for a more particular Account of this valuable Plant, I must postpone it for another Time.

Of Plowing and Preparing Land to sow Wheat-seed in. — This Month of *April* is what we call the chief fallow Month of the whole Year, for fallowing up that Ground which is designed to be sown with Wheat in *September*, or *October* next,
and

and is so generally observed for doing this Work in, that both the Vale and *Chilturn* Farmer make it their constant Rule to plow their Land for the first Time in this Month, in order to prevent the Growth of Weeds, and get the Ground into a sweet Condition, and fine Tilth, by repeated Plowings and Harrowings ; and, for this Purpose, a *Chilturn* Farmer begins to plow his Pea, Bean, or Oat-stubble up in Broad-lands, if these Grains grew in Broad-lands before : And this he does for the better Preparing it to be plowed in single Bouts, or in what we call *Four-thorough Stitches or Ridges*, the next or second Time of Plowing ; for, when Ground is to be plowed into one of these Forms, it is necessary that it be first made loose, and somewhat fine ; which may be done by such first Plowing of it into Broad-lands, and then Harrowing well. Now the Reason, why it is so necessary to thus prepare it for Bouting or Four-thoroughing, is, because, if a Farmer was to attempt to raise up the Earth by the Plough to lie in single Bouts, while it is in a rough, clotty Condition, it would Part of it be apt to fall down again into the Water-Furrows ; and that, which so falls down, cannot receive the Benefit so well of the nitrous Air, as that which remains laid up. The same, when the Earth is designed to be plowed into four thoroughed Lands ; it cannot lie so compact, and exposed to the Advantage of Air, if this Work is to be performed, while it is in a surly clotty Condition. But this is not the Case of the Vale-Farmer, nor the *Middlesex* Farmer ; for neither of these plow the Ground in these two Forms : The Vale-Farmer is obliged to observe the fewest Ways of Plowing his Ground of all others ; because he is confined to employ his Foot-plough only, and that in plowing his Land always in the Broad-land Fashion, by *ridging it up*, or

casting it down, as they here call it ; and as their Vale-ground is generally of a wettish, stiffish Nature, the Farmer, that neglects to fallow it up, in this Month of *April*, stands an ugly Chance of losing great Part of his Wheat-crop, by the Growth of Thistles, and other Weeds, and the Coarseness of the Earth, for which Reason a Vale-Farmer is more than ordinary necessitated to plow up his Ground in this Month ; for it indeed sometimes happens, that, notwithstanding all his Endeavours to get his Land into a fine Tilth, by several Plowings, he cannot do it to Satisfaction in a very wet Summer, which either prevents his Plowing the Land in due Time, or renders his Plowings the less efficacious ; for, when it is plowed in wet Weather, or in a wet Condition, it is to little Purpose ; the Horses had better be kept feeding at Home all the while, and more to the Farmer's Profit, than working them in such a Manner, because they stolch, harden, and help to sowre the Ground, which the Waters alone do too much. The next and last Observation that I shall make of Plowing in this Chapter is, that the *Middlesex* Farmer is near as much obliged to plow his stiff three and four Bout-Lands up in this Month, as the Vale-Farmer is his ; for, in several Parts of this County, their Ground is not only of a clayey, or a stiff, loamy Nature, but it lies in a very flat and wet Situation ; insomuch that, in some particular Parts of it, they are obliged to keep up their Land in a Ridge-Vale Form, lest the Inundation of Waters overflow their Corn, But the general Part of their Soils does not lie so bad as all this ; that which lies drier, they plow and commonly sow in three and four Bout-lands, which altho' they, in this Form of Plowing, lie not so high, as an intire broad Ridge-land, yet they are thus made, by the many Water-Furrows on
their

their Sides, to lie dry enough to save the Corn that grows in them from the Damage of Waters, unless greater and longer Rains than ordinary happen. Here they commonly fallow in eight Furrows, or four Bout-lands, that they may the better next Time plow them in the very same Form again; for, by this Means, they break the Earth pretty well with their single boarded Swing-plough, because they remove most of it from its former Situation, and thereby shorten and sweeten it. But notwithstanding all their Efforts to bring their Land into a fine Tilth by *September* or *October* next, for sowing the same with Wheat-seed: When a very rainy Summer happens, they sometimes cannot bring this to bear to their Mind, by reason the Waters hinder their After-plowing in due Time; and, when they do, perhaps their Ground will be little or nothing the better for it; yet plow they must, if it be only to check the Growth of the Thistle and Couch-Grass, which, otherwise may become the Farmer's Master. Therefore it highly concerns all Farmers, who occupy such Soils, to begin their Fallowing, or first Plowing for Wheat, early in this Month of *April*.

C H A P. XII.

The Copy of a Letter from a Lord, to furnish him with Kerroon Cherry-Trees.

S I R,

THE Earl of — desires you will send him ten Kerroon Cherry-Trees, by leaving them with Mr. Matthews, at the Crown-Inn in Dunstable, who will pay you for them.

Nov. 7. 1743.

From your humble Servant.

The

The Author's Answer to the same.

S I R,

ON the 9th Instant, I delivered ten *Kerroon* Cherry-Trees to Mr. *Matthews*, at the *Crown-Inn* at *Dunstable*, and with them left a Letter to be sent to you, giving an Account how I plant this Sort of Trees in Winter; but I think I omitted telling you, that, when these are planted, by leaving a Sort of a Bason Form in the top Earth, you ought in *January* following to throw over all the Top of this Bason Coal or Wood Soot to the Thickness of a Crown-Piece, and so once or twice every Year, and likewise on an adjacent Ground; for, by so doing, the Soot will give so great an Assistance to the Roots of these Trees, as to make them shoot more in one Year, than they would in several, if there was no more done to them, than what the Earth does they are planted in. Soot does also prevent the Harbour of Mice, and the Breed of Ants and other Insects, which oftentimes either stunt the Growth of Trees, or kill them. The two largest Trees, in particular, I know will come to some Money for their Carriage, by reason of their great Weight; but, as they are well furnished with Roots, they will, if planted at first right in Virgin-Mould, and afterwards well looked to, return the second Year some of the finest black Cherries, perhaps, in the whole World; a Cherry not only fit for the Table, but likewise for the Cellar; has a great deal of Flesh in it, and that so firm, as to endure a long Carriage, when most others would spoil. Its delicious Juice is excellently pleasant, when enjoyed directly from the Tree, and which Thousands are Strangers to, who eat them at second and third Hands; but its Wine is of such a high, cordial, wholesome Nature, that its nourishing, salubrious Qualities exceed those of many other Sorts, when made

made in a true and artful Manner, an Art little known in the World; if it was known enough, there would not be so much Money expended as there every Year is in Foreign Clarets; for a Wine may be made from this great Black Cherry, that may nearly supply their Place, and give the Drinker great Satisfaction. I have been treated with this Wine at a Gentleman's Table, and at the same Time challenged to give it a right Name; for it was very difficult to know this from a *Barcelona* Wine, as he had made it; and, indeed, if this Wine, and a white and red Elder Wine, and white Currant Wine were made in their Perfection, and drank in common, instead of Foreign Wines, there would not so many die of Inflammations of Lungs, Gout, Gravel, and Stone, and other Maladies occasioned by liberally drinking such Foreign tartarous Wines and spirituous Liquors. Not that I recommend these *English* Wines, for their being clogged with a great deal of Sugar: I am ready to furnish any Gentleman with the Cuttings of a peculiar white Elderberry Tree, that is of so sweet a Nature of itself, as to want the less Assistance of Sugar; also with Cuttings of the white Currant-Bush, or Tree, that is of an excellent Sort, as producing a very large and sweet Fruit, capable of being made into a Wine little inferior to a small *French* white Wine. If I had sent a very small Nursery Cherry-tree, it must be some Years before an Owner can enjoy its Fruit; and therefore these large Trees are of the greater Value. I have likewise sent a small Parcel of Beech-Maste, as a Present to his Lordship, which I fortunately had by me; for Mr. *Matthews* told me, my Lord wrote to him for some, but that he knew not where to get a Pint of this Seed for Money. But I should think that a Thousand of fine Beechen Sets of eighteen or twenty-four Inches long would also be very necessary to plant for the first Time, because

because these would arrive to a good Bigness some Years sooner than the Mast, and are of a much greater Certainty of Growth ; and because I could afford them at ten Shillings a Thousand besides the Carriage : And how valuable the Seed or Mast of Beech is to Deer, Swine, Poultry, &c. they very well know that enjoy it in Plenty ; which many do, who live in barren, chalky, sandy, gravelly, and other poor Soils. I can likewise furnish *May Duke* Standard, and several other Sorts of improved Cherry-trees, at one Shilling each, besides Carriage to the Waggon or Ship ; or Apples, Pears, and other Fruit-Trees ; but, for the Orange-pear, I can send nothing of this Tree, but Grafts and Cyons ; for I know of no such Tree besides my own in the World, that yields such a large Golden Orange-coloured Fruit, that is always ripe in Harvest, and is not less pleasant, when eaten raw, than baked ; for, when baked, it tastes almost like a Sweetmeat, and for such an early pleasant Pear, to be enjoyed at this Time of the Year in a Pye or Pasty, is such a Rarity to the Harvestmen, that they exceedingly value it. I should be very glad to be farther serviceable to his Lordship in any Thing that I can, as being,

Sir, Your most obliged humble Servant to command,

Little-Gaddesden,
Novemb. 22, 1743.

WILLIAM ELLIS.

I since received another Order from this Lord's Steward, for delivering 2000 Beechen Sets to Mr. *Matthews*, at *Dunstable*, for his forwarding of them by the Waggon to the aforesaid Earl ; and I delivered them accordingly at ten Shillings a Thousand, in *December 1743*.

*The Copy of a Letter from a Duke's Servant to
this Author.*

S I R,

MY Lord Duke would be glad you would
send as under by the ——— Carrier, that will
be at *Dunstable* on *Tuesday* next in the Morning.
Please to call on the Porter in ——— *St. James's*,
London, and he will pay you the Money, from

S I R,

Your most humble Servant.

P. S. The Waggon goes out but once a Week.

Black Kerroon Cherries	} one of each.
Parfnip Apple-tree	
Slips of white Elder	
Orange-tree Grafts	
Lady-finger Grass	} As much as can
Tyne or Wild Fetch-grafs	
Dumplin	} Grafts in the Season.
Gold Ruffetin	

*The Author's Answer to the same, shewing the great
Profit of sowing Sprat-Barley, and the Use of the
Maste-Draught-plough.*

S I R,

I This Day delivered to Mr. *Tippet*, who keeps
the *Half-Moon Inn* at *Dunstable*, two Black Ker-
roon Cherry-trees, and likewise two Parfnip Apple-
trees, with some Cuttings of white Elder, for the
——— Carrier, to take up To-morrow. These
Cherry-trees are the same Sort, I lately sent to
Dunstable, for forwarding them to the Earl of ———

R

which

which are so large, that his Grace will have Fruit on them in two Years Time, and the Pleasure of eating a matchless Black Cherry. I likewise carried this Day two Thousand Beechen Sets to the *Crown Inn* at *Dunstable*, to be sent to the aforesaid Earl, that were most of them above two Feet in Length, well rooted, and just taken out of a poor clayey Soil, that qualifies them the better to grow and flourish in a drier one ; and, if his Grace pleases, I will furnish him with such at a Shilling a Hundred, or eighteen Pence for larger, besides Carriage, to *Dunstable*. No Park, nor, indeed, inclosed Field, should be without Beechen Trees in their Hedges, or planted on their Grass Baulks, where the Soil will admit of their Growth, by Reason of the great Benefit their Maste is of to Swine, Poultry, &c. And, as your Land consists of Clays and Sands, the Maste would be more than ordinary serviceable to Deer and Sheep, in preserving them from the Rot ; for the Oil, contained in the Beech-feed, is a singular Antidote against that and the Red-water. With us the Beech-tree thrives on a reddish Clay, as is apparent in those that now are in *Astridge* Park, where the biggest Beech-trees now stand, I believe, that are to be seen in *England* : I can furnish his Grace with white Wood Sets, for growing in wet, spewy Grounds, that are commonly at their Growth in fifty or sixty Years Time ; it is a whiter Wood than Deal, and therefore is preferred for making Shelves, Cupboards, Dressers, and other Household Conveniencies, to the great Pleasure of the good Housewives, who delight to see these of the whitest Colour. If you have no Sprat-Barley, I can send you a Bushel of this excellent Sort, by the Waggon, for increasing it into large Quantities, and this from off either chalky, gravelly, or clayey Soils ; for I, and my Neighbours, sow it every Year, in various Sorts of Lands ; if you have any Marsh Arable Land,

Land, or other very wet strong Sort, this Barley will be a great Improver of it; for, by its strong Straw, it will stand upright, when the common Barley will fall down, and spoil in such rich Grounds. This is a Matter of great Consequence, to those who occupy such Earths; because, by this Means, they may become Masters of ten Quarters of Barley on an Acre of such Ground, when, perhaps, they would not have three Quarters from our common Barley; and, if this profitable Conveniency was more known, I am certain I should have the more Custom for it; but, at present, I am very sensible it is known to few, as well as Hundreds of other Things. I have been the more particular, in acquainting you with this Barley-feed, because you lie on the Edge of a very wet Part of the Country, that contains vast Numbers of Acres of Marsh and wet strong Earths, which would, if managed right, produce great Quantities of this Grain; and, for this Purpose, the Two-wheel, light, Draught-plough is made so strong and clever, that it is the chief Plough made Use of in a certain County, for plowing their Marsh Grounds, preparatory for sowing them with Corn; and not only Marsh Grounds, but I have seen special good Work performed by one of these in 1743, in fallowing up a very hard gravelly Soil, which it did, I thought, in an extraordinary Manner. This Plough, if you, or any of your Acquaintance, has Occasion for, I can send one to him that shall be made in the greatest Perfection, as being a most serviceable Instrument, not only for doing what I have been just mentioning, but likewise for performing several other valuable Works in the Plowing-part of Husbandry. I am,

*Little Gaddesden,
13 December, 1743.*

*Sir, Your humble Servant
to command,*

W. ELLIS.

The Copy of a Letter for sending a Gentleman Aylesbury pirky Wheat-feed.

S I R,

PRAY send me, by the Return of the Waggoner, a Quarter of your *Aylesbury* pirky Wheat for a Trial of it; and, upon the Delivery of it, I will pay him for it, you sending, by him, an Account what it comes to.

At your Leisure, please also to send me such Sort of Plough as you reckon best for a dry, loamy Soil, which shall be properly acknowledged by, Sir,

Your very humble Servant.

Direct to ——— Esq;
at ——— London.
8th November, 1743.

The Author's Answer to the same, shewing the Management of improving Aylesbury pirky Wheat-feed.

S I R,

ACcording to your Order I have sent you *Aylesbury* pirky Wheat-feed, that was brought up from the lower Parts of *Buckinghamshire* two Years ago, and since sown in the chalky Grounds of *Pitstone* Parish, that lie a few Miles distant from my House, which gives this Seed an improving Quality by the following Means: In the lower Part of *Buckinghamshire*, there are Men who make it their Business to plow up Meadow Ground, (which was at first laid down for this Purpose) and sow a clean pirky Wheat-feed in the same for a first Crop; by which they have a Return of a clean, plump, pure-bodied Wheat, free of Weeds, and all Manner of Soil, and larger than ordinary,
as

as it comes off a rich, stiff, blackish Earth. Now this maiden Crop, coming off new, broken-up fresh Ground, is saved on Purpose for Sale-feed; and accordingly is bought up by particular Men, who make it their Business to collect and buy it in large Quantities, for selling it again, to many Farmers in small Parcels, for their sowing it in various Soils in other Parts of the Country: Among which Number, several of my Acquaintance, who are Occupiers of chalky Grounds, punctually observe to buy this Seed every third Year, because they sow it no more than two Years before they get fresh again, in order to fit it the better for Sowing in contrary Earths; for no Change exceeds the Sowing of Wheat-feed from off a chalky Ground, on a stiff, loamy, or clayey Ground; and it is for this very Reason that great Quantities are every Year sent from our Parts into the *Northern* Parts of *England*. I shall endeavour to furnish you with a proper Plough that will best suit the Soil you have given me an Account of, who am,

Sir, Yours, &c.

Little Gaddesden, 10th November, 1743.

Remarks on this Gentleman's Letter for furnishing him with Aylesbury pirky Wheat-feed.—This Gentleman has discovered himself to be Master of a more necessary and brighter Curiosity than any other, (except one) I have yet met with, in sending to me for furnishing him with a Quantity of this delicate Wheat-feed, that is to be sent to his Estate for propagating its Species in a Part of the Country where it never was before. This is striking at the Root of a most valuable Improvement, for it is not only to plow and dung Land, and fit it in the best manner for the Reception of Wheat-feed: There

There is likewise a necessary Provision to be made in getting ready a right Sort, that will best suit the particular Time of Year of sowing; the Nature of the Soil, and its Situation. I will only mention one Case on this Account:—As a *Chilturn* Farmer cannot well pay his Rent without Crops of Turneps or Rapes, some, if not all his Turneps, or Rapes, cannot be eaten off time enough for sowing the same Land with a *Lammas* Wheat, because this Wheat growing on a long strong Straw, and in a long Ear, where its Kernels stand the furthest a-part of all other Wheats, requires an early Sowing to ripen it in due Time; therefore after *October* we account it rather too late to sow this Sort, lest the Farmer lose great Part of the Crop by it, because, by such late sowing of this *Lammas* Wheat, it will, very probably, be too late in its green Ear, and thereby be the more exposed to the Damage of Honey-Dews and Blights, for this Wheat, more than any other, is least capable to resist this Sort of Prejudices. On this Account, we have Recourse to the great Conveniency of sowing pirky Wheat, by reason this has a shorter Straw, and closer Ear; is a hardier Sort than the *Lammas*, for, by its low, slender Straw, and bunchy Ear, it is the better able to resist Honey-Dews and Blights. Again, as Turneps are generally sown on a gravelly, a chalky, sandy, or dry Loam, and eaten off by Sheep, or Bullocks, the *Lammas* Wheat will not agree with such dry, lean Earth, near so well as a pirky Sort; for a Loam best affects a rich, stiff Soil, to maintain its long thick Straw, and lank Ear, when a pirky Wheat will flourish on a leaner, and dry-one, which makes it of great Value to follow a Crop of Turneps; and on this Account it is, that all over *Hertfordshire* its Farmers make Use of hardly any other Sort to sow after these Roots, and this very late in the Year; for I have sown

sown it in the Beginning of *March* upon Necessity, and, as it happened, I had a good Crop, late in Harvest: Not but I frankly acknowledge, that such late Sowing was not good Husbandry, because it laid me under a greater Risque than I willingly would have run; but, as I wanted to make up a certain Number of Acres of Wheat that Year, I ventured it. However, I have this farther to add, That, in *November, December, January, and February*, this pirky Wheat is often sown after Turneps, and Cole or Rape Crops, and generally hits well, though not quite so certain as that more forward sown. In short, no Gentleman or Farmer, who sows his Land with Turneps, or Rapes, should be without this Sort of Wheat, for sowing it to follow them. I likewise have further Occasion to observe, that those Gentlemen and Farmers, whose Lands lie more to the *Northward* than our County of *Hertford* does, are, in an especial Manner, obliged to sow this pirky Wheat in their Tilted Earth, in *September* or *October*, in their wettish, stiffish, Ridge, open-field Lands, and later in their drier Soils, after Turneps, or Rapes, for this hardy Wheat agrees as well with a stiff Earth as a dry Earth. But then here is this Caution to be, in a particular Manner, regarded: A Person may sow pirky Wheat to little Purpose, if he does not take particular Care to have a right Sort of it; for, let me assure them, there is a great Difference in pirky Wheat-feed. Some is Rubbish in Comparison of others. Some may be attended with the smutty, ruinous Quality; others with Pepper-Wheat; others with Darnel, and smaller Seeds of Weeds; others with underline Corns, and others from growing in an improper Soil, for sowing it in another it is wanted for. These malignant Incidents ought to be most carefully avoided, if a
Person

Person intends to succeed in sowing this beneficial Wheat-feed ; and therefore a few Shillings extraordinary are far from being flung away, for enjoying a true, pure Sort of clean pirky Seed. On the contrary, it is some of the worst Money kept back of all others, that should be expended in the Management of a Farm ; because, as a Person's Seed is, so will his Crop be, and so will his Profits arise. This leads me to observe, That, on the 25th Day of *December* last, 1743, I received a Letter from Colonel *Willis*, one of the chief Planters in *Virginia*, for sending him over four Sacks of four several Sorts of Wheat-seeds, for sowing them in his various Soils, with Orders to get them at any Price I shall think fit to give. This discovers a great Genius in this Gentleman, who, by this his extensive Commission to me, shews he is sensible, that the best Wheat-feed is the cheapest of all others, though it costs more than the common Sort sold in Markets ; and, that a Wheat-feed may answer this Character, it must be a bold, full-bodied Sort, and a clean, dry Sort, free of all Soil from Seeds of Weeds ; that which has been lately thrashed out, and that comes off a right Soil for sowing it in another. This Gentleman, though a perfect Stranger to me (for I am only known to him by my Books, which, he says, have given him so great a Pleasure, that he has thus sent to me for these Wheats) may justly upbraid the Indolence of many of our *English* Occupiers of Arable Lands, who, notwithstanding they possess various Soils in their Estates and Farms, yet are not prudent enough to furnish themselves, like this Foreigner, with Wheat-seeds proper for them, and therefore are incapacitated for enjoying those Profits which otherwise they might do, by selling their Corn at Home, and at foreign Markets, for the greater Prices ; as this Gentleman will be sure to do, who has informed

formed me, by his Letter, how he improves his Land, by planting Tobacco, and sowing Wheat.

C H A P. XIII.

Of Rolling Corn.

THE Benefit of Rolling Corn in April. — This is an ancient *Virgilian* Piece of Husbandry, most necessary to be performed in this Month, both on Vale and *Chilturn* Corn-grounds, whether they be Barley, Pease, or Beans, &c. for the several Reasons following. *First*, to secure them from the destructive Slug. *Secondly*, to prevent the Damage of long and violent Droughts. *Thirdly*, to nourish the Corn-Roots; and *Fourthly*, to make them stand fast. *First*, to secure a Crop of Corn from the Slug. The Slug, or naked Snail, though a small Insect, is the most mischievous of all others to Corn-crops, especially to that of Pease; for these are the most natural and most delicious Food of all the Field Kind to them, and therefore they remain feeding on them longer than any other, for the Slug attacks the Pease from their infant Growth till they are in Pod; and on this Account it is that a Farmer, in the random Way of sowing Pease, cannot be sure of a full Crop of them, till they are past the Slug's Power to hurt them; which keeps many Farmers under a panic Apprehension of the Loss of their Pea-Crops, or some Part of them, by this ravenous Insect; for the Rapine of this small Creature is committed chiefly in wet, warm Weather, that frequently happens in this Month of *April*, which assists the Slug not only in its vigorous Feeding, but likewise in its Breeding, by laying its small Eggs in little Cells, under Clots of Earth; and when the Weather is thus favourable to the

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Breed

Breed of this slimy Insect, their Increase in a small Field is infinite, and endures Years together, if the Seasons are mild : That is to say, if a wet, warm Summer and a mild Winter succeed each other, then the Slug remains in Safety, and keeps his Possession till the next Spring Time, when he is ready for renewing his wonted Rapine. But, in case a very hard Winter happens, then the Farmer stands a hopeful Chance of being delivered from those his arch Enemies, who, although they lie too deep for being destroyed by the Tines of common Harrows, yet a severe and long Frost will sometimes penetrate into their Beds, or Cells, and there destroy both them and their Eggs, as it happened to them in the Winter 1739, and in the Spring 1740, which was such a hard and long Frost, that it rived, or split, many Oaken Trees, or rather bursted them, by swelling their Sap into an icy Substance, and, at the same time, entered the Earth so deep as to kill most of the Snail or Slug Tribe, common Worms, Darres, and Canker-worms, insomuch that our Crops of Corn have hardly suffered by them to this Day. But when these Insects live in great Numbers, in Weather suitable to their Nature, they become the greatest Field Pest of all living Creatures, by annoying, and sometimes ruining Corn, Turneps, artificial Grasses, and other Vegetables, both in Gardens and Fields ; and what very much chagrines the Farmer is, that he cannot destroy them with all the Art he is Master of. Lime, indeed, will do a great deal towards it, but it will not fully answer his Purpose ; for, if To-day he sows his Lime over a young Crop of Pease, Turneps, &c. perhaps the same Night, or next Day, great Part of its Efficacy may be lost by the Fall of great Rains: Or, if a Course of dry Weather should succeed, then very likely the Lime will serve to burn up the infant sprouting Grain, as
young

young Turneps, Clover, Flax, Wold, Pease, and other green tender Vegetables: And if he sows Soot instead of Lime, or Tobacco-dust over them, he may chance to share the same Fate; and so of any other hot powdered Manure. Wherefore, to prevent these destructive Mischiefs, as well as the Farmer can, he makes Use of the common wooden Roll, eight Feet long, fixed in a Frame, and drawn by one or more Horses: The hindmost being fastened in a pair of wooden Shafts, for the more steady drawing, and turning it at the Land's End, and bringing it through narrow Gate-ways, that lead from one Field to another. Here we roll the Corn that lies in Broad-lands, and in Ridges, commonly twice in a Place, to crush down and kill the Slug; and, for doing this Work the more effectually, a good Husbandman will begin to roll his Ground at Peep of Day, for drawing the Roll along the Lands, while these Insects are in their high Feeding; for, if he defers this Work later in the Morning, the Slug (especially if the Weather is dry) will quit the Surface, and creep into the lower Earth for sheltering themselves, and lying safe from Accidents. This Caution, therefore, ought to be well regarded by all concerned in rolling of Corn-crops, for one Hour's Time, in the Fore-part of the Morning, is better than three afterwards, for killing Slugs, by the Pressure of the heavy wooden Roll. *Secondly*, the Roll ought to be made Use of to prevent the Damage of long Droughts, which may prove fatal to Crops of Corn, by drying and parching their Roots, while they are in their Infancy; because then the Sun and Air have free Access to them, and, being in their thready Condition of Growth, the Heats may very easily enter, dry the Earth about them, and do that Mischief, which, perhaps, can never be recovered. Now, to prevent this, a good

Farmer, in due Time, will roll his Horse-beans, his Thetches, his Pease, his Barley, or other Crops, that generally want Rolling in this Month, by crushing down, and laying even, the clotty Earth on the Surface; which, though it did some Good before, by breaking off the Gusts of cold Winds from the Corn-roots, yet now becomes necessary to break them down, by the Pressure of the Roll, for laying the Surface level, for the Operation of the Scythe hereafter, and for shading and sheltering them from the Power of long and dry hot Seasons. *Thirdly*, by crushing down the clotty Part of the Surface with this wooden Roll, and laying it even, the Corn-roots receive a Sort of second Dressing; for, when the Earth is thus squeezed about them, the Rains will wash out its saline Quality on them, nourish them all the Summer after, and by this Means assist a scanty Manure, that was laid over the Crop at Sowing-time, and further increase the fertile Effects of a rich one; as is obvious to all Farmers, who practise the good Husbandry of using the Roll in this Manner; and more especially so, if a dripping Summer succeeds this profitable Work, for then we seldom fail, by this Means, to see our Crops grow and flourish in large Stalks, Pods, and Ears, that give us the greatest Hopes of enjoying a plentiful Harvest. The contrary Effects of this Management are easily perceived, when it so happens, that a Farmer is put by his Intention of rolling his Corn in due Time, as it now and then happens to be his Case, by the Fall of heavy and long Rains, that hinder his doing this Work; for, if he was to roll his Corn in such Weather, the Horses Feet would be apt to stolch, crush down, and bruise, or bury many of the Corn-stalks, or Blades, to the utter Spoiling of some of them; therefore it must be dry Weather, whenever this Work is performed. But, if this Happiness is not

to be enjoyed before the Stalk and Blade are got too old for the Purpose, then the Rolling-part had far better be let alone, and the Farmer remain content to see the Want of that he cannot have ; which, very probably, will cause him the Sight of a languishing Crop of Corn. *Fourthly* and *Lastly*, by rolling Corn, the clotty surface Earth is so fastened on, and about its Roots, as to enable the Stalks to stand erect, for receiving the benign Benefits of the Sun, Air, and Rain, in Perfection ; for, when they grow in this Posture, the Sun and Air have a free Passage between their many upright Stalks, that thus serve to ripen them with the greater Expedition, because the aerial, warm Influences have Room to harden them, and cause the Stalks and Ears to perform their regular and safe Blossoming, and Blooming, without which there can no right, full Crops of Corn be reasonably expected ; for, when the Stalks of Corn are, by heavy Rains, strong Winds, and for Want of rolling the Ground, forced to fall down, such Crops cannot enjoy a right Blossoming, or Blooming ; and then, I am sure, they cannot be well corned. Again, there is this Caution also to be observed in the Rolling of Corn ; where Barley, or other Grain, has not been rolled before Spindling-time, it should, by no Means, be rolled then ; for, if this was to be done, it may, perhaps, bring on the Loss of almost a whole Crop of Corn, because, if its Stalks are got so strong as to grow upright in a tolerable Height, and the Roller be then drawn over them, it will consequently squeeze them to that Degree as to make them *bleed*, as we call it ; that is, it will bruise them so as to force out Part of their Sap ; and then, as the green Stalks lose that vital Part which should nourish and carry on their Growth, they must be stunted, if not killed. And although one would think, this Case needs no Advice to caution against it,, yet I have

have known some topping Farmers commit this egregious Mistake, to their great Damage, without perceiving their Folly, till it was too late, and some not at all ; for, being ignorant of the Damage that such late Rolling may cause, when they see a Barley-crop stunted, they are apt to impute it to a wrong Cause, and not to the right one, of the late Rolling of their Corn in its spindling Condition. I knew a Yeoman, who was Owner of a Hundred a Year, a fine Farmer, that was brought up to Husbandry Business all his Life, be guilty of this very Mistake ; who went on, committing it Year after Year, till at last he had so much Damage done, by rolling his Barley at an unseasonable Growth, as opened his Eyes, caused him to perceive his Error, and become his own Monitor, as well as to other Farmers ; for he frankly owned he acted wrong in rolling his Barley (in particular) too late, even when it had arrived to its spindling Condition ; but, for a more exact Account, of rolling Arable Grounds, see my Book, intituled, *New Experiments in Husbandry* (at Page 16) wherein you may find several Matters I have not here mentioned. As to the Rolling of Grass, or Meadow Grounds, I have wrote on it in last Month, and therefore shall omit it here.

C H A P. XIV.

Of Hedging.

OF *Plaifhing Hedges in April.* — Although this Month of *April* is the last Month in the Spring Season, that admits of Plaifhing Hedges, yet no prudent Farmer will have this Work to do now, unless mere Necessity forces him to it. Necessity, it is true, may happen upon two Accounts: One, by long Frosts, Snows, and Rains; the other, by Multiplicity of Business, and Scarcity of Hands. All, or Part of these Reasons, may be the Cause that he is forced to cut and plaish Hedges in *April*, if the warm Weather has not rarefied the Sap of the Wood, to the Degree of what we in *Hertfordshire* call *Boxing*; that is, if the Rind is not liquefied so much, by the Sap, as to part from the Wood, on bending down a Plaish. If it is, this Work (let the Occasion be ever so pressing) must be let alone; because, if it is performed at such a Time, it would surely kill so much of the Hedge, as where the Cuts or Plaishes are made. But, where this Work can be securely done, it is of the greatest Importance to a Farmer; because this Piece of necessary Husbandry is the Foundation of many Advantages to him. It is by a good Hedge, that he has not only Fuel for his own Use, but also, for selling some to others. By a good Hedge he can keep his Corn, his Grass, his Turneps, his Rapes, and other Vegetables, from the Rapine of ill Neighbours, in a much securer Manner than those Farmers can, who sow these in common, open Fields; not that a *Chilturn* Farmer can say, I will lose none of them: No, there is none can say this, because the common Sort of Hedges is not capable of preventing the arch Thief; but a Hedge that is half Thorn, and plaished, and made
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to grow very thick, and to a good Height, may intimidate the lesser, younger Thieves, and Women, from attempting to steal the Farmer's Corn, and other of his Field Ware, for fear the Difficulty of going backward and forward, over his Hedges, should betray them; which sometimes happens, by the crackling Noise of the Wood, or by a Person's lying as a Spy, in Ambush, by the Cover of another Part of the Hedge. An old Farmer of my Acquaintance sowed a four Acre Field with Turnep-seed in 1743, which taking all over the Land very well, he bestowed due Houghing upon them, and they proved a fine Crop. Now this inclosed Field, though it lay but about a Hundred and Twenty Poles off his Dwelling-house, yet, I heard him say, he did not expect to enjoy the Benefit of above two Thirds of the Crop, because a Path-way lay through this Field, which gave the Pilferer a very great Opportunity to carry off his Plunder; however, as it happened, he got three and twenty Shillings for every Acre of these Turneps, after they had been heartily thinned by Mr. Thief, by selling them to a Butcher, that fed them off with his fatting Sheep. This shews how necessary a good Fence is at all Times, to be kept up; for, at best, few Farmers are free from more or less of their Rapine, especially those, who are either lame or decrepid by old Age, or live at a great Distance from their Out-fields. Cattle are likewise restrained from getting out of an inclosed Field, where the Hedges of it are in good Order, as well as others, from getting into it. It is by this great and strong Barrier of a good Hedge, that Night-roguers are prevented turning in a Cow, Horse, or Sheep, into a Field, for filling their Bellies at the Farmer's Cost; which I have known done by a petty Dealer, or Higler, who, keeping a scrub Horse, for carrying Fish about the Country, would turn him, by one Means or other, into a Field, late
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at Night, and fetch him out early in a Morning, before any of the hard-working Farmer's Servants were up. By a strong Fence, the great Damage of paying Cost for what any stray Cattle may occasion, by their breaking into a Neighbour's Field of Corn, is avoided, and the Farmer made to enjoy his Sleep with the greater Assurance, when his Field is surrounded by an able, well-made Hedge, and Ditch. In 1742, I had a Hedge made, and a Ditch, three Feet wide, in all, from the live Stake, scowered so deeply up, as to raise the Earth on the other Side eighteen Inches higher than the common Surface of the Ground ; and though this was almost a hasel Hedge, yet, by the Help of such a deep-scowered Ditch, and laying down the Plaishes thicker than ordinary, the Hunters, Shooters, and Poachers, have not since been able to press it so much as to give any Cattle of my own, or Neighbours, Room to go out, or into it, by any Gap ; whereas heretofore, when the same Hedge has been made, and the Ditch scowered up, by a bad Workman, there has been considerable Damage done by my Neighbours Cattle breaking into my Field, and mine into theirs. This is enough to shew the Value of an ingenious Workman, or Hedger, whose Perfections, were I here to describe, would take me up more Paper than at this Time I am willing to employ, and therefore shall postpone his Character to another Opportunity ; in the mean Time, I have this to acquaint all Gentlemen with, who are Owners of inclosed Lands, or that may be inclosed, that the Country I live in is justly famed for the best of Workmen-hedgers, who are so valuable to Farmers, who occupy inclosed Fields, that such a one better deserves six Pence, where a bad Workman does three Pence ; because, whether it be well, or ill made, it requires to lie nine Years, at least, before it can be made again ; and, if it is not well made at first, it

exposes the Farmer to a great deal of Damage that may happen in that Time. If Hundreds of Gentlemen, therefore, did but know, how profitable such a good Workman would be to them, I am persuaded, I should have Letters in great Numbers sent me to help them to such, though they gave extraordinary Wages for him. But, if I mistake not, the main Reason, why many Gentlemen do not seek out for such a good Workman-hedger, is, because they have not a true Notion of the right Method of planting and plaishing Hedges; this I am the more sanguine to believe, from what I myself have heard in several Parts where I have travelled. They have thought their Workmen made and plaished Hedges in ample Order, when, I think I may say, they were of the worst Sort. Therefore it behoves Persons either to believe my Description of a good Hedge, or better to travel, and see those that are made, which exceed their own; and these, I presume, I may say, are to be viewed in *Hertfordshire*, where several Sorts of them may be seen in the greatest Perfection. The Alder, the Willow, the Sallow, the white Wood, the Poplar, and the Withy, in moory, or watery Grounds; the Silver Beech, the Horn Beech, the Maple, the Hasle, the Witch-Elm, the Ash, the Oak, and the black and white Thorns, with several other Sorts, in drier Soils, where they grow in great Variety of Beauty and Profit. And therefore, if any Gentleman pleases to send to me for a Servant, that is capable of performing this excellent Work, let him not grudge to give him some extraordinary Encouragement, because a good Hedger may lay a Foundation, at his first planting a Hedge in right Order, for producing a vast Profit afterwards, even, perhaps, for Hundreds of Years to come; for a Hedge well planted at first, and well managed afterwards, may be prevented from ever being destroyed by Age; because there is a Way to be practised by
a Man

a Man of Judgment, to renew an old one in such a Manner, that no Time need be lost in such its Renewal. Hence I am obliged to give Notice, that if any Person sends to me for a Servant that can hedge, as well as do other Work, in the Farming Business, he ought to send me a particular Account of the Nature of his Soil, and the Situation it lies in, that I may know the better how to make Choice of, and send him one that understands that Sort of Hedging proper and suitable to his Land ; for there are moory or marsh Land Hedgers, Vale-hedgers, and *Chilturn* Hedgers : That is, there are some, who are so much used to work on their particular Sort of Hedges, that they can do no other rightly. For Example : A Vale-hedger is used to renew, or make his Hedges in the Way, they here call *Backing* it ; which is so much contrary to the Mode a *Chilturn* Hedge is made in, that he is a perfect Stranger to it. Again, a *Chilturn* Hedger is so much used to laying down his Hedge by Plaishes, that he is as great a Stranger to the Vale-mode. And, for the marsh or moory Land Hedger, he is better acquainted with planting, and cutting up, or plaishing an Alder, a Withy, a Willow, or other Water-wood Hedge, than either of the other two. But, to come nearer the Matter, I must further observe, that it is not only Planting or Plaishing any of these Hedges, there is another main Article still behind ; and that is, how to cut the proper Wood out, and, afterwards, how to make the most of it to the Owner's greatest Advantage.

C H A P. XIV.

Of the Gypsy-Vagrant.

A *Further Account of the Damage that the Gypsy-Vagrant does to the Farmer and Country in general.*— It may, perhaps, be thought by some Persons, that I here busy my Pen in writing on too mean a Subject, when I write of the Gypsy-Vagrant, in Neglect of others of greater Importance : But, were they to live in the County of *Hertford*, where I do, or in any of the Counties frequented by these Cheats, I dare believe they would be of another Mind, and think it a most necessary Article ; which I chiefly write on to apprize our Legislators of the horrid Damage that the Farmers and Country, in general, sustain by these arch Thieves travelling up and down it, as it were, in Masquerade ; because their Men appear only in the Night-time, unless it be in their Journeying : And, tho' their Women do it in the Day, yet it is under the Disguise of their being only a Company of poor Women and Children, that beg to live on the Charity of good People ; and that they may get the nearer Access to the Persons of both Master, Mistress, and Servants, they wrap themselves up in cold Weather, in a Blanket, and at the Door beg in a most ardent Manner ; and, if this is not like to succeed, they alter their Language, and fall to telling a little that is to happen *in futuro*, or Time to come ; but, if they will give them a Bit of Money, they will tell them the Whole of what good Fortune is to befall them, with a deal of bombast Stuff, that they are not at a Loss to express. But let such know, that it is not in the Power of any wicked Person, to give an Account of any Thing that shall certainly come to pass ; no, this is not in the Power

er of the Devils themselves, as the learned Author of the Book of Apparitions well observes; but is altogether confined to the Knowledge of the Almighty God, the Creator of all Things, and supreme Governor of all Events, blessed be his Name for ever and ever. *Amen.*

Of the Gypsy Cant, whereby they can talk on the Spot to their Comrades, for deceiving honest Persons, with the greater Subtlety. — This they do ofteneft, when they are in Company with honest People, for a more knowing one to give his timely Advice to a more ignorant one; or to give Notice of a favourable Opportunity to steal, or deceive, &c. They partly for these Purposes make Use of an *Irish* or an *English* Cant. — A House, they call a *Ken*; an Old Woman, a *Moat*; a Young one, a *Bloss*; an Old Man, a *Cove*; a Justice, a *Rumbeak*; a Dog, a *Buffer*; Barn, a *Skipper*; a Bed, a *Pad*; Sheets, a *Slade*; Liquor, *Booze*; Milk, *Yearn*; Beans, *Black Jack*; Pease, *Trundlers*; Turneps, *Nips*; Door, a *Jigges*; *Wheeze the Moate, and she will tip the Lour*; as much as to say, *Beg clean, and you will get some Money*; and a thousand other Terms, invented to deceive, when they are in Company with honest People, that they may the more cleverly impose on them.

A further Account of the Actions of these wicked Gypsy Vagrants. — These Gypsies ought, by no Means, to be suffered to travel about the Country, nor Town, because they are not only a Nufance to the Farmer, but likewise to the Shop-keeper, as may appear by what follows: Both the Men and Women Gypsies confine not their villanous Actions to the Farmer alone; they extend them to all Places where they can find an Opportunity. As they have one, two, or more Horses, or Mules, or Asses, commonly with them, they serve their Turn to bite the honest, ignorant Shop-keeper, especially
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some in Country Towns : They go into a Shop and cheapen several Sorts of Goods, telling the ignorant Master or Man, or his Maid-Servant, that they deal in selling of Linnen, Woollen, Ribbons, Garters, and other Sorts, and have a License for so doing ; and I have been told, that one in their Gang has had a true one that they take out for the Purpose, in order to cloak their Villany with the more Artifice ; for by this Means they pilfer some, while they are buying others, as being most of them Masters of Sleight of Hand ; and, for their greater Safety from being apprehended, they are always at Home, as making a Habitation under a Hedge, or in a Wood, &c. when it does not suit their Conveniency to house ; where they hold Councils for executing their black Designs, and are so readily supplied with Provisions, that their trained Dogs will seize and carry off the Booty of live Geese, Ducks, Hens, Chickens, Turkeys, &c. without suffering them to make a Noise ; as their Masters will in the Night-time, when they rob Hen-roosts, by putting up a Stick to the Hen's Belly ; and, by a little Push of it, the Poultry will descend on the Top of it, without the least Cry ; as I had the Relation of these and other Facts from a Woman that begged at my Door, who told me, she travelled with some of them to see first if she approved of their Society (a good one I will warrant you) but forsook their Company in Dislike. She told me, these Gypsies seldom ever marry, but live almost promiscuously ; if a Man do not like his Female Partner, he gives her ill Words, or a Kick, and takes another. On the 6th Day of June, 1743, a Gypsy Fellow asked my Farrier the Way to *Aylesbury*, and he told him ; but, in a few Hours after, he saw the same Fellow, at less than two Miles Distance (for *Aylesbury* was nine Miles) fiddling to some Gypsy Women in a Barn at *Abbery*, and asked him why he asked the Way to *Aylesbury*,

Aylesbury, and knew it as well as I. This he denied not, for his Question was made to amuse People, that they should have the less Knowledge of their Rendezvous. There was a Gang of these Gypsies met about the 18th of *January*, 1742, consisting of five Men, besides many Women and Children, going into a large Wood of Beechen Trees, near *Highbickham*, in *Bucks*; a Place that suits their Purpose best, and where they pitch their Canopy they lodge and keep Fire. These had two Mules, and two Asses, with them. By all which Conveniences, they have the Opportunity of stealing Sheep, Lambs, and Poultry; and having got Wood enough, and Privacy to their Desire, in the Night-time they dress it in such Cover, and enjoy themselves on the Spoil of the Country, most commonly in a Dell-hole, or Chalk-pit, till, in a few Days, they remove their Quarters; for their Business is not to stay a longer Time in a Place, than it agrees with their Safety. This Woman told me, they live almost three Parts of the Year in *Kent*, *Surry*, *Sussex*, *Hampshire*, *Berkshire*, *Buckinghamshire*, and *Hertfordshire*, but commonly leave *Kent* a little while after Hopping-time; for, if they travel and beg there, the People generally throw it in their Teeth — *Where is your Hop-Money, live on that* — This Woman told me, she has not seen such a numerous Gang of Gypsies a long Time; for these, she says, were nineteen in all. There was a Crew of them of about sixteen at *Charing*, in *Kent*, that lay ready for the Hopping-Season; but it happened that most of them fell sick of a Fever, and some of the Small-Pox, and few died; for there was an old sage Veteran in their Company, who sold her Gold Rings, and raised all the Money she could to defray their Charge, and keep them off the Parish; for they take all possible Care, to prevent that, lest it bring them under such an Odium, as would soon spread
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the Country, and prevent their future Travelling : She farther said, that, had she become one of their Society, she must take an Oath to be true to them ; and that if she had so done, and proved false, in betraying or forsaking them, they would contrive some sly Way, or other, to be her Ruin. There were many of them taken up, and prosecuted, for Villanies at *Salisbury*. *Northwood*, near *Dulwich*, used to be a great Resort for these pestiferous Vagrants. They seldom go in *London*, unless great Necessity force them to it ; which made one late venture to go into a Shop, and steal some Ribbons ; but she was heartily flogged for it in *Totbill-Bridewell*, *Westminster*. She says, that the *Boswell's*, the *Draper's*, and the *Hilton's* Gangs are much lessened and decayed of late, by Hanging and Transportations ; for it is these ubiquitous counterfeit *Egyptians*, that have great Opportunities to steal Horses, and other Things ; because they are always upon the Tramp, as the Chief of them did, who was lately hanged at *Aylesbury* for Horse-stealing ; and, I hope, if the Vagrant Law is amended, that it may be made more severe than ever, against this Sort of cheating, thieving Vagabonds in Particular ; who, under the Cloak of asking Charity, commit Thousands of Robberies, as being a most subtle, intriguing, wicked Crew.

C H A P. XV.

The Copy of a Letter for furnishing a Gentleman with Beechen and Witch Elm-Sets.

S I R,

January 23, 1743.

OBserving in your last Monthly Book for *February*, that you have good Beech-sets to dispose of at one Shilling and Six-pence *per* Hundred, I desire you would send me five Hundred of them, and also five Hundred Witch-Elm Sets by the — Waggon, which every *Tuesday* and *Friday* Morning calls at the following Places near you, *viz.* at the *Crow*, kept by *Jeffry Dudley*, at *St. Alban's*, at Seven o'Clock ; at the *Bell* in *Market-street*, at Ten o'Clock ; and the *Half-Moon*, at *Dunstable* about Noon. The Price of them, and the Charge of Delivery to the Carrier, shall be paid as soon as you please within *London*, or returned by the Carrier to any Place on the Road.

I am your humble Servant.

Direct the Sets to Mr. — in — Salop, and let me have a Line of Advice.

The Author's Answer.

S I R,

THE Beech-sets I can get and send you in great Perfection ; but the Witch-Elm Sets I cannot promise you. I have lately sent great Numbers of valuable Sets to Gentlemen, and, if I can meet with the Elm Sort, will send them among the Beech-sets. Therefore, if you please, I will send you one Thousand of Beech-sets ; and, as you have been so judicious to inform me of the Time and the Day your Carrier passes through *Dunstable*, I shall

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take Care to draw them in such due Time, that they shall arrive with you in a fresh moist Condition, which is the Life of Transplanting ; but as I cannot be certain of the exact Days, I shall deliver them, because of the Chance of frosty Weather, it must be left to me to do it by the first safest Opportunity. Please therefore to send — for one Thousand of Beech-sets by your Carrier, and let him leave it in Mr. Tibbet's Hands, at the *Half-Moon* at *Dunstable*, to be paid me on Delivery of them, and you will oblige,

Sir, Your most obedient humble Servant

Little Gaddesden,
29 Jan. 1743.

W. ELLIS.

A Second Copy of a Letter from the same Gentleman.

Salop, Feb. 6. 1743.

S I R,

I Received yours relating to the Beech-sets, of which I desire you would send me a Thousand, since you have no Witch-Elm left. According to your Directions I have this Day paid —, being the Sum you charge for them to our Carrier, who, lest the same Man who goes this Journey should not drive that Waggon, by which the Sets are to come, is to leave the Money with the Landlord, at the *Half-Moon* at *Dunstable* to be paid you on the Delivery of the Sets. I am,

Sir, your humble Servant.

The Author's Remarks on this Gentleman's Letters.

According to this Gentleman's Directions, I sent him a Thousand Beech-sets in fine fresh Order to *Dunstable*, on the 20th Day of February, 1743,

1743, for his planting them in his Park in *Shropshire*; which leads me to take Notice of the good Notions this fore sighted Gentleman entertained on reading the valuable Service Beech-Trees are of to Deer, Swine, and Poultry, but most of all to the first; who thereupon forthwith sent to me for Sets of the same, which he was very right in doing, because the fresh Sets that I sent him, under proper Management, will run into Trees with great Expedition. And, that they may grow the faster, I sent such Directions with them, that, if duly observed, will forward their Growth at a prodigious Rate; for, unless a proper Aid is applied to them in their first Shooting, and infant Growth, the Sets will lose a great deal of Time, which will be prevented by what I advised him to make Use of; for I have planted Thousands in my own Ground for making Trees; and, from the Success I have met with, am enabled to advise all that buy Sets of me, how they may enjoy the same. And what I have further to remark is, that this Gentleman had not only Reason to plant Beech-sets for their growing into fine large Trees; but he had an Eye to their producing of that excellent Seed, called *Beech-Maste*, which yields Abundance of Oil, of a most salubrious Nature, to Deer in particular; for the Oil of these Kernels, in the cold wet Winter Seasons, warms their Stomachs, and prevents the ill Effects of the raw, phlegmatic, flashy Grass, that oftentimes causes the Breed of the Rot, or Red-Water, in their Bodies, that occasions the Death of Thousands of these valuable Animals, especially where the Ground they feed on is of a clayey, or other stiff, wettish Nature, that lodges Rains, and thereby much contributes to the Deer's Destruction. This Maste is likewise of a most nourishing Nature, insomuch that it serves as Part of the Subsistence both of Red and Fallow Deer, during several of the Winter

Months, and thereby helps out the Scarcity of Grafs and Hay, and the more where Swine and Poultry are not admitted to feed amongst them; for Hogs are so voracious of this Food, that they will in a little Time fat on it, if it is a plentiful Maste Year, which it commonly is, every second or third Year at most. I know a Gentleman, whose Park abounds with many Beech-Trees, keeps a Thousand Head of Red and Fallow Deer, that in such a Maste Year receive a great deal of their Subsistence from it; and so do near half a Hundred of his Swine, as well as many wild Turkies, that sometimes perch on these Trees, yet do not stray so far, but he enjoys the Benefit of them: So that here is a double Profit to be expected from planting Beech-sets, one from the Wood, and the other from the Fruit; and this for a Trifle Charge at first, in Comparison of the vast Returns these Sets may make in a few Years; for, if these and their young Trees are nourished with an agreeable prolific Assistance besides the Earth, they will grow up in half the Time they usually do in their wild Growth. Wherefore it highly concerns Gentlemen, whose Land is proper for it, and who have Conveniency for the same, to plant the Silver Beechen Set, that will arrive to a Tree several Years sooner, and with much more Certainty than Maste will, though they are carried to a great Distance, as I shall further observe by and by. — This Gentleman was likewise highly in the right, in ordering me to send him Witch-Elm Sets, for the great Conveniency and Profit they produce. It is a very valuable Tree in Parks, because it grows a great Pace, and very large in a moist Soil, or rather in a Loam, between wet and dry (for this will flourish wherever the common Elm does) and because it has a thick pleasant, spongy, soft Rind on its Body, Arms, and Twigs, which renders it such an agreeable Brouze

or

or Food for Deer, in hard Weather especially, that they will greedily feed on its Boughs or Twigs that are cut off for this Purpose, and love it so much, that they will almost eat up a small Stick of it ; and though this Tree does not yield any Fruit, yet it supplies it very much by the quick Growth of its Shoots, that are cut off for Brouse, and for the nourishing heathful Qualities of its Bark, that serves to dry up the superfluous Moisture of their Bodies, and at the same Time, as I said, furnishes them with the Change of a beloved Food. This very serviceable Tree may, for these Purposes, be planted in Rows for making ornamental Vistoes and Walks, or in other Shapes ; and therefore it will be very well worth any Person's While, who has a Conveniency of planting this Tree in Parks, or inclosed Fields, to do it with Expedition. And, though I cannot furnish Witch-Elm Sets to any Person this Year, yet I hope to have Plenty of them another. But, to be more compleat in furnishing a Park with necessary Trees for the Service of Deer, there ought to be a sufficient Number of Horse-chestnut Trees planted, that their large Nuts may serve as Part of the Deer's Subsistence ; for these Trees, where they arrive to a large Head, will bear considerable Quantities of these Horse-chestnuts, that the Deer will eat ; and, as they are of a bitterish Taste, I suppose they may at the same Time become, in some Degree, an Antidote to, or Remedy for the Worms. But this is not all : The Horse-chestnut Tree, having a most light Wood, grows with great Expedition, in either wet or dry Soils, and yields to their Owner a charming Sight in the Spring and Summer-time, by their large verdant Leaves, and fine white large Bell Flowers, that perfume the ambient Air with fragrant Odours, afford a most pleasant Shade and Shelter in sultry Seasons, as they stand in Rows, and compose noble Vistoes and Walks. Now it is
not

not too late to plant any of these Sets or Trees ; *March* generally gives us a good Opportunity for this Purpose ; and, if it is a dry *March*, it is only planting them in a right Manner, and then there is no Danger of their growing well, let the Weather be how it will ; for this chief Reason it is, that I always send, with the Sets or Trees I furnish to any Person, ample Directions for their planting, and causing them to run into a quick Growth, being a sure Method that never fails making Trees grow large in a little Time. A Proof of which I shew to any Person, that will be pleased to come and see considerable Numbers of divers Sorts of Standard Fruit-trees, growing in several of my Arable and Meadow inclosed Fields ; which generally not only yield me an annual Profit, by their Fruit, but serve likewise to shade and shelter my Cattle in the hot and cold Seasons of the Year.

The Copy of a Letter sent to this Author, for recommending a Ploughman Servant.

S I R,

I Understand you are a Person that takes a great deal of Care and Pains to do the World Service in many Branches of Husbandry ; and among the rest, to help Gentlemen to Ploughmen, capable of performing what they are hired for. This therefore is to desire you will send me one that can act as such, and that knows how to buy and sell Cattle, and manage a large Farm. Please to let me have an Answer, as soon as you can, to

Sir, your humble Servant.

20 Decem. To Mr. Ellis, at Little Gaddesden, near Hempstead in Hertfordshire.

The Author's Answer.

S I R, *Little Gaddesden, Decem. 2. 1743.*

IN answer to yours, this is to inform you, that I have pitched on a Man, that, I think, is capable of giving you Satisfaction, in the Discharge of what he undertakes. I do assure you, he has the good Character of the Country about him, for an excellent Ploughman ; one that understands to buy and sell Cattle, plaish Hedges, thrash and clean Corn, sow, reap, and mow, and do most, or all Work belonging to a Farm ; for he has been brought up in a large Farm, and lived all his Life where a great deal of Business has been done ; is a sober Fellow, not given to Swearing, and Raking about, and, I think, he is one that will make you a compleat Servant, because he has acted as the Head, or Chief one, this two or three Years past in a Farm of a Hundred a Year. I am very tender in my Recommendation of a Servant, as well knowing my Reputation lies at Stake ; but, was it my own Case, I would venture upon this Youngster, who am,

Sir, your most obedient humble Servant,

The Copy of a Second Letter from the same Gentleman.

S I R, *January 2. 1743.*

I Received yours, dated the 27th of *December*, and I am pleased to find, that you are very modest in your Recommendation of the Man you think will serve. I would have one that should answer the Character that you have given in your Book. I would therefore hope you have taken Care to acquaint him, what it is that I shall expect from him, which you can easily do, by reading over to him your own Character of a Ploughman ; for such a
Man,

Man, if he be diligent, and no other, will render himself agreeable, for the whole Management of the Farm will lie upon him. As to the Wages, you mention, I am willing to give, on Condition that the Man, by his Performance, answers your Character. He may come and try for two or three Months, during which Time his Wages shall go on, and we shall both be capable of making a Judgment. The half Guinea, with your Charges, shall be given you, with Thanks for your Trouble. If there be any further Occasion of Writing, let me hear the next Post ; if not, I shall expect to see the young Man in eight or ten Days at farthest. I am,

Your obliged humble Servant.

P. S. I have thought it proper to acquaint you, that the Man, I hire, is to serve the Right Hon. the Earl of _____ at _____ in _____

This young Man was hired accordingly, and when the Gentleman saw and examined him, he gave him larger Wages, than he demanded, and at the same Time sent me a Gratitude for my Trouble and Charges.

F I N I S.

T H E

Modern Husbandman:

O R T H E

P R A C T I C E of F A R M I N G:

As it is now carried on by the most Accurate
FARMERS in several Counties of ENGLAND.

For the Month of *May*.

Containing the following Particulars, *Viz.*

- | | |
|--|---|
| <p>I. Of PLOUGHS and PLOW-
ING.</p> <p>II. Of BARLEY, WHEAT,
&c.</p> <p>III. Of WEEDS, and their
Cure.</p> <p>IV. Of MANURES and
DRESSINGS proper for
this Month.</p> <p>V. Of Artificial GRASSES.</p> <p>VI. Of BULLS, COWS, and
CALVES.</p> <p>VII. Of CHEESE.</p> | <p>VIII. Of BUTTER.</p> <p>IX. Of HOGS.</p> <p>X. Of SHEEP.</p> <p>XI. Miscellaneous Matters in
HUSBANDRY.</p> <p>XII. Of TURNEPS; a far-
ther Account of them.</p> <p>XIII. Of Making and Re-
pairing ROADS.</p> <p>XIV. Of HORSES, MARES,
and COLTS.</p> <p>XV. Of TREES and IN-
SECTS.</p> |
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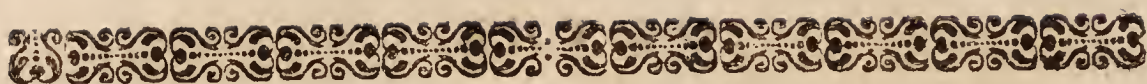
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in *Hertfordshire*, a Farmer of long Experience.

The S E C O N D E D I T I O N.

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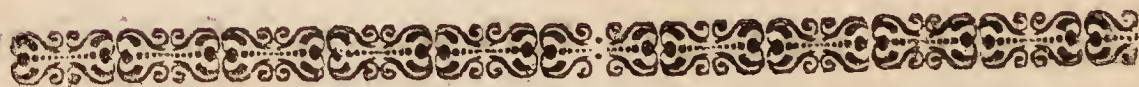
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THE first Impression of this Work (which is allowed by all Judges of Husbandry, to be the best ever published on this Subject) being all sold off; the great Demand there has been for them, has encouraged us to publish a second Edition of this, and the rest of the Months, at two Shillings each Month, to the End of the Year.

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- I. AGRICULTURE IMPROVED: Or, the Practice of Husbandry displayed, in two Volumes, with a *curious Cut of the Wheel Double-Plough*.
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P R E F A C E.

For the Month of *May*.



*I*N this Monthly Treatise of the MODERN HUSBANDMAN, I begin with those most useful Articles, Plowing and Sowing ; and intend to pursue the same Method throughout the whole Work ; and these, as they are now performed by the most judicious Farmers for a Livelihood, in the several Operations of Broad, Bout, Ridge, and Drill-work, by the Two-wheel, One-wheel, Foot, and Three-wheel, and Pulley Drill-ploughs, Horse-breaks and Sheims, &c. Of all which I shall be the more
A parti-

particular, because no Author has ever yet published the common practical Ways of these Instruments, as they have been, and are at this Time, in Use : Which I could not do, had I not travelled several Years for informing my Judgment, by making Observations on the numerous Objects that presented themselves to my View, as well as conversing and corresponding with Gentlemen, Farmers, and others ; by which, with the twenty-four Years Experience in the Management of my own Farm, and the Knowledge of my Neighbours and Country's Practice, I am enabled to compose Monthly Books of Facts, without being beholden to a Mass of uncertain Theory. Agriculture began with the World, and was the Employment of its first Inhabitant, who was to get his Bread by the Sweat of his Brows : Therefore, as to its Antiquity, it, undoubtedly, may be dated from Adam, who was placed in the terrestrial Paradise for cultivating it, and enjoying its Fruits by the Help of the Spade, Plough, or other Instrument : An Invention not since altogether found out by fortuitous Accidents, as some have vainly conjectured, almost into a Notion of Certainty. But, waving insignificant Niceties of Dispute, it must be owned, that the Improvement of Agriculture, within these very few Years last past, has made our Britain and Ireland exceed all Countries in this Science ; and happy for us it is so, since, as the World grows older and more populated, the good Providence of God has wisely contrived it, that, with Necessity, Wisdom should be given to Men to find out Ways and Means to supply

supply it. And, as nothing can more contribute to this great End, than to refresh and fertilise our Mother Earth in the quickest and cheapest Manner, it is most true, that the Plough can answer this Purpose beyond all other Inventions. And, as the Creator has been pleased to make this World abound with different Earths and Situations, it is incumbent on the Farmer to furnish himself with that Sort, which best suits the Nature of his Land. Hence it is, that the Wheel-plough, or any of the Drill-kind, is as useless in some Vales, as the Foot-plough is in some dry stony Grounds of the Chiltern: For, though the Soil and Seed be good, the Manure plenty, and all other necessary Contingencies are compleatly furnished; yet, if the Plowing-Part is not performed in due Order, our Return at Harvest will, in Course, be the less. Wherefore, as God provides for many good Things of this World, by the Labours of the Ploughman, it is our necessary Business to find out all possible Improvements relating thereunto; as the late dreadful Scarcity of Corn, &c. in 1740, is a most woful, but plain Proof of. The Labours of a Country Life will rise in our Esteem, if, besides their Agreeableness to our Nature and Frame, we consider them as the Source of all the Wealth of the Nation: Trade and Commerce, which are esteemed the two greatest Fountains of national Wealth, cannot have Place, but in the Foundation of this original and natural Employment. Agriculture not only furnishes Wealth to a Nation, but Hands also able and willing to defend it, and is, perhaps, the

A 2

best

best Nursery of good Soldiery in the World ; and the Country Life, which thus qualifies Men for necessary Defence, naturally introduces a Disposition averse to civil Tumult and offensive War : The Occasion over, their Swords easily convert into Plough-shares, and their Spears into Pruning-hooks. Agriculture was, perhaps, the Parent of all those Sciences, Arts, and Employments, which have since carried their Heads so far above her : But it rises still higher, and reads continual Lectures, not only in Speculative, but Practical Philosophy ; it conducts to Morality, and every social Virtue ; and enforces a due Regard to, and Dependance on the Supreme Being ; in which consists the Essence of Religion. As to the chief Particulars in this, and in the Eleven Monthly Books that are to follow, they are too many to be mentioned here ; therefore I shall conclude this Preface with giving you only a Hint of a very few of them, as follows, viz.---The Article of Suckling House-lambs, I am sensible, has been wrote on by Mr. BRADLEY ; by my Account, it may be carried on by those Farmers, who never saw the Business performed in their Life, and that in the most profitable Manner, by causing Ewes to take Ram at any Time, and lamb twice a Year ; whereby several Cities and great Towns will undoubtedly, and in a little Time, be supplied with that dainty Food House-lamb all the Year, as is done at London. The like Profit may be had by the Flesh of suckling Calves, which, by several artificial Ways, may be made very white, and soon fat. The new-invented,

vented, light, Three-wheel and Pulley-ploughs, which plow, sow, and harrow, all at a Time, with only one, or two Horses at most; and the Horse-break and Dutch Hough, which, in a few Weeks after, is to follow it, are such serviceable Instruments, that, I am sure, Thousands would have, if they knew their Benefits in all dry Loams, or in any other Soil, where a Drill can be rightly made, and the Owner's Conveniency will allow of it, for sowing Thetches, Pease, Horse-beans, Kidney-beans, Barley, Wheat, &c. therein, as it is now done by Farmers for a Livelihood. In February, 1738, I sent the Three-wheel Drill-plough and Horse-break into Yorkshire, to a Gentleman who has since expressed himself with Abundance of Satisfaction. Likewise the Improvement of Hop-plantations by the new-invented Prong-plough, Hough-plough or Sheim, Prong-spade, Prong-hough, and Beck-hough, as they are frequently used by some of the most ingenious Husbandmen, to their great Advantage. The invaluable Receipt, to prevent Sheep's Rotting in the worst Ground, I learned of a Farmer, who saved a Flock of three hundred by it, when all his Neighbours Sheep died in the same Soil and Situation; being a Remedy so easy to come by, that it may be had in most Villages for about a Penny Charge, which is enough to secure a Sheep's Health six Months. Several Ways to make a Cow take Bull at any Time, and stand to it, according to the Cheshire, Suffolk, and other Practice. To make Butter in the sweetest Manner, after a Method approved of by the
Royal

Royal Society : *Also to prevent its being tainted by Leaves, or other rank Food ; and likewise a Way to make it presently, without Churning ; with many other valuable Secrets relating to the Dairy. To make many Sorts of Cheese. Infal- libly to prevent the Fly's Destroying young seedling Turneps for Two-pence an Acre Charge in all Weathers, and to cause the Seed to sprout in a very little Time after it is sown, in the driest Season. To hinder the Slug's doing Mischief to young Turneps, Savoy's, Flax, &c. in dry, or wet Weather, without the Help of Soot, Lime, Tobacco-sand, or other powdered Application. To keep off the Damage of Field-fowls from Turnep- seed, new-sown Corn, or Fruit-trees, at any Distance from a House, by a Mixture of cheap Ingredients. To sow Barley in April, and yet be as forward as that sown in March ; and to in- crease a Crop for Six-pence an Acre Charge, without the Help of Nitre, by which the Damage of Frosts, Chills, and Droughts are mostly pre- vented ; and which will keep off the Spoil of Worms, both in this Grain, and new-sown Wheat. To cure Distempers in Horses, Cows, and Sheep, as practised by Farmers. To keep off the Breed of the Caterpillar from young Turneps, Cole, Cabbages, and other Plants. To prevent the Garget, or any other Inflammation, in a Cow's Bag, and to increase and sweeten her Milk by a cheap Drink, given but twice to a Cow, as it is done in common by the Dairy Farmers in a cer- tain County. A new Method to supply the Loss of wild Pheasants by breeding them tame, as it*

Is now done by several Farmers for paying their Rents, and is a vast and cheap Improvement. How to destroy the Fox, Badger, Polecat, and other Field Fowls, that are pernicious to the Farmer, by new and easy Ways. To keep Eggs perfectly sound two Years for no Charge, so that, at the End of that Time, they may be set under Hens, as well as new-laid ones. The Culture of Canary, Coriander, and Carraway-seed, Teasels, the great-headed Poppy, and Dwarf-roses. A sure and most cheap Way to prepare Wheat-seed for preventing smutty Ears, keeping off the Worm, and causing a greater Increase, by several new Ways, without the Help of Brine, or Stale. To breed that delicate, large, hardy Fowl, the Bustard, as tame as common Turkeys in a Farm-yard, at the same Trouble and Charge, but for three Times the Profit. An Account of several Impositions practised in the Sale of Cows, Horses, &c. And that very useful, but copious, Account of raising Plantations of proper Fruit-trees; with a Thousand other curious and profitable Matters (never before published) which this and my other Monthly Books will contain, from the Experience of myself, Neighbours, and many others; who, undoubtedly, have been at great Expence and Labour in finding them out, and which, thus, may be enjoyed for a trifle Cost.

P R E F A C E.

N.B. I furnish any Person with the *Three-wheel Drill-plough*, *Horse-break*, and other Instruments usually employed in Farming, to any Part of *Great-Britain* or *Ireland*, at reasonable Rates ; and answer all Letters, provided Postage is paid to my House.





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CHAP. I

Of Ploughs and Plowing.



YOU that have not begun Fallowing in last Month, fail not to do it in this. In the *Chilturn* or *Hilly* Country, it may be performed with the two Wheel single Fallow-Plough, with the two Wheel double Plough, with the Turnrise-Plough, and with three Sorts of one Wheel Ploughs, &c. In the *Va'e*, or low Grounds they use but two Sorts, The Swing-Plough, and the Foot-Plough : Of these I shall give particular Accounts, as follows :

And first I shall begin with the two Wheel single Fallow-Plough ; of which there are several Sorts now in Use. One is called the *Hertfordshire*-Plough, whose Ashen-beam is nine Feet long, its iron Share four Feet, four Inches in Length, and made with two Mortaises, weighing about 50*lb*. which by the Help of a broad Board so fortifies it, that it is strong enough, with its pecked Point, to plow through the most stony Land in this Country,

B

whose

whose dry Gravels, tenacious Clays, and large Flints, very often try its Strength, and sometimes break it ; for which Reason we are frequently obliged to draw with four, five, and six Horses, who find Work enough to manage an Acre and an half in a Day in dry Seasons. The Plough-man also is very often hard put to it, because he must be both an able and skilful one, to hold this Plough in such Weather and Ground in the Fallow-time : When the Stones cause the Handles to jirk and strain him to that Degree, as defies an ordinary Work-man to do it as it should be ; and thus in some of our hard gravelly Lands, they will wear out two or three Points in one Day, which cost six Pence each. Its Land-Wheel is 21 Inches wide, and its Thorough Wheel 24 Inches, and is drawn by Horses in a double Row.

The two Wheel double Hertfordshire Plough. This has two broad Boards, two Shares, two Coulters, and but one Beam ; but I shall here decline the particular Description of it, because I have amply done it in my last Monthly Book, *Page 97*, where you may see its excellent Uses, which, if thoroughly known to the World, would invite many Farmers and Gentlemen to send for them at twice their present Cost. And as I have had several Letters of late for this Purpose, to know first how much the Price of one is, I shall here, to save the like Trouble, set it down, *viz.* The Wood Work of the bare Plough, exclusive of any Part of the Wheel Carriage, will cost 16 s. The Iron Work of only the two Shares, two Coulters and Hooks, will cost 4d. per Pound, weighing in all near 70lb. so that the Plough alone will cost 40s. and as for the Wheel Carriage, it may be had in many Counties where the Plough Part cannot.

Turnrise-Plough. This is also a two Wheel single Plough, and far lighter than the last, because,
though

though its Wheels are higher, its Share is less than eighteen Inches long, being made with a round Socket and Point, weighing ten or fifteen Pounds, has no broad Board, but instead thereof, a roundish moveable wooden Turnrise, about four Inches Diameter and a Yard long, which, at every Land's-End, the Plough-Boy scrapes in wettest Weather, and shifts in less than a Minute to the other Side, whereby it will plow a Field without Hentings, and Losing Time and Labour to go round its Work, as all our *Hertfordshire* Ploughs are obliged to do, and is also of so clever and strong a Make, that it will out-do ours in plowing among large rocky Stones, and entering the Earth deeper, by the Help of its round Share and Timber; which is so very serviceable, that I heard of an obstinate Farmer, who going out of our County, to live towards *Orford* in *Kent*, would make Use of no other than our broad Board-Plough, till he run himself out of several hundred Pounds: But at last being persuaded to lay it by, and work only with the Turnrise Sort, as his Neighbours did, he recovered his Losses; and the Reason they assigned me for his Running out was, that, his Farm being a very deep Mould, our *Hertfordshire* Plough would not go deep enough to extirpate the Roots of Weeds, and raise the best Earth, which the Turnrise would effectually do. This Instrument is likewise most serviceable in plowing the Sides of steep Hills, which it will do the best of all others, because it plows the Ground all one Way, that no Sort whatsoever besides can perform so well; and is of the greater Use, by Reason the making of Hentings, and Plowing two Ways, according to the common Method of round Work, will not here answer the Farmers Purpose. In short this well invented Machine will plow up their hard Chalks, Gravels, and stony Clays in Fallow Season, better

than any other Sort whatsoever, and will perform round Work, or any other Operation, that a Fallow Wheel-Plough is used to do. There are also some of these with a flat Chiffel Point about two Inches wide.

The Jockey, or Flemish, two Wheel single Plough.— Is used in Fallow and other Seasons in sandy and light Loams, having only its single Staple for a Handle, by which the Plough-man wholly guides it by one Hand, and at the same time with the Help of a small Cord or Line, which he fastens to the Horses Bits, he drives two Horses a-breast, and one before, and sometimes three in a-breast, but commonly only two, all Day long without the Help of a Boy; and that in performing most Sorts of plowing, being a much lighter Instrument than all others that I ever saw of the Wheel Sort. Its turn up Beam being about six Feet and a half long: Its flat winged iron Share weighing about eight Pounds, being a Foot in Length, made to put on a Socket of Wood, and held steady by an iron Hook from the Beam, with a broad Board of Wood, but generally with a thin hammered Iron one, where there is a weak Team: But if it is a strong Team, they have of late got into the Use of one made of Cast Iron, that costs about six Shillings, and will wear many Years. This light short Plough is drawn by a high Carriage, whose Wheels are above two Feet Diameter, sometimes ringed with Iron, and sometimes with intire Wood lapped round the Spoke; and though this has but very lately come into use in *England*, yet it has in many Places supplanted the Foot-Ploughs that were in use before this.

The one Wheel Gloucestershire single Fallow-Plough.— This, though it has been in *Gloucestershire*, and elsewhere, some Time, is but lately introduced among our Farmers, as being much lighter than our two
Wheel

Wheel Fallow-Plough both in its Wood and Iron Work, has a Share with only one Mortaise, has two fixed Handles, a Yard long each, which, with its single Wheel, joined to the Beam near its fore End, keeps its pecked Share from entering the Ground too deep, and makes it turn easy at the Land's-End; all which Conveniencies save one Horse in four, in Comparison of the two Wheel *Hertfordshire* Fallow-Plough: In short, this one Wheel Plough, which is drawn by Horses in length, differs from some of the Foot-Ploughs only in its Wheel, whose Diameter is about eighteen Inches, and will perform various Works in our *Chiltun* Lands; but its Wheel is very apt to overturn, and thus becomes troublesome to the Ploughman, so that now it is in less Repute than before.

Overcheek one Wheel Plough.—This new invented Plough is also worked with one Wheel, of about a Foot Diameter in the Clear; that turns round directly under, tho' at some Distance from the Beam: It performs well in sandy, stony Lands, because its Socket Share is fixed on a round Piece of Wood, and goes steady: It is also used in chalky Grounds to great Advantage, because it proves a light Plough after the Horses. We are Strangers to this Instrument in *Hertfordshire*, but I have seen several of these, as well as the Under Cheek-Ploughs, used in a certain County that I have travelled through this Summer 1738. *Undercheek one Wheel-Plough.* — This differs from the Overcheek Sort, only by a little Alteration in its Make, some have one, and some the other, even in the same Parish. One will not clog in dirty Weather so soon as the other, and therefore preferred by some; they are both pretty Sorts of Ploughs; but more of these two in next Month.

The Foot-Plough. — Of this there are several Sorts, one with a straight Beam, between eight and
nine

nine Feet long at *Chesterford*, near *Saffron-Walden*, that I have seen drawn by two Horses in a-breast, in a light loamy Ground, and drove only by the Ploughman without a Boy, by the Help of a four Horse Coach Whip, whose Thong and Lash I measured to be above nine Feet. But the common Sort of Foot-Plough has its Beam a little bending towards the End, of about six Feet long, a broad Share, and is used chiefly in ridging up Vale Lands, and casting them down. This, for its extraordinary Lightness, of late is drawn by two and three Horses in Length, in our *Chilturn*, gravelly, and stony Grounds; because, by the Help of a pecked Share, it saves the Draught of one Horse in four, which we are obliged to use for the same Work with our two Wheel Plough.

The single Mortaised Foot-Plough is used in our *Chilturn*, stony Grounds, to draw out the Sleaving and Ridge Thoroughts of the Wheat-Stitch, and which is immediately followed by the Wheel Wheat-Stitch Plough, that hents up and finishes the Stitch; and why the Foot-Plough does not perform the whole Work, is, because it is apt to wabble, and not go so straight as the Wheel one; yet this may be contrived to go more steady and even, if it is made with two Mortaises and a pecked Share, as some have them. Others for this Purpose, instead of an iron Foot, have a small iron Wheel, about six Inches Diameter, that causes an easier Draught to the Horses, when they perform the last Plowings with it, for sowing Barley, Turneps, *French* Wheat, Weld, &c. by only two Horses in length, which helps forward the Sowing of Corn with a weak Team. The Foot-Plough is also very valuable for plowing up Turnep Ground shallow, that the Sheep's Dung may not be buried. The same Conveniency answers when Pease are sown, broadcast, and plowed in. Operations that cannot be so well

well performed by the Wheel-Plough, because it goes so deep, as makes it apt to bury the Corn, and many Crops have suffered by this very Means.

The Drill three Wheel Plough.— In my next Monthly Book I shall give an Account of this excellent Instrument, and so of the *Pulley Drill-Plough*, which is also of very great Service ; *Breaks, Hough-Ploughs, Prong and other Spades*, are likewise to be described in the next Monthly Book, and their several profitable Uses amply explained.

The Swing-Plough, — Is a Sort of Foot-Plough, much used in *Middlesex*, in their flat clayey Grounds. Its Beam is raised higher, or lower, at Pleasure, by Ropes fastened to a Cart-saddle on the hindmost Horse. With this light Instrument they lay up their Lands in three and four Bouts, and it is drawn commonly by Horses in Length : And it is in this Sort of situated Earth, that I observed they often lose great Part of their Crops for Want of getting it into a timely Tith, which in my humble Opinion they might more expeditiously do, if they used our two Wheel Pea-Stitch Plough, or a narrow Fallow Wheel-Plough, in the Summer-time especially, after their Ground has been fallowed by their Swing-Plough. And that, by plowing it across into single sharp Bouts, and afterwards by plowing them down again with the same ; which, after due Harrowing, may then be plowed, with their Swing-Plough, into their common three and four Bout Lands, in order to sow Wheat.

The Creeper or Bobtail-Plough,—Is a two Wheel-Plough, differing but very little from the Fallow Wheel-Plough, but that its Share is only three Feet in Length, and but one Iron Mortaise. Its Work is to plow up Stubbles, particularly in *Chilturn* Land, in wet Weather, because its Share, not being fastened to a Staple behind, gives room for the Earth to tumble off, that it does not hang on,
and

and load the Plough, as it is apt to do in the long Shared Sort. Some so affect this Plough, that they make it their common one in Fallow and other Seasons: But in very dry hard Grounds, this Plough is not capable of making its Way so easy as the double mortaised Fallow Wheel-Plough can. But there are several other Sorts of Ploughs that are to be used out of the Fallow Season, that I intend, in proper Months, to give an Account of. In the mean time, all, or any of the before mentioned, if any Person thinks fit to furnish himself with, I will do it at their prime Cost, only allowing me what is reasonable for my Trouble. For where a Farmer occupies a hundred or more Acres of arable Land, he cannot be compleatly furnished without most of these Sorts, especially if he lives in a *Chilturn* Country, and his Ground is of several Natures, which is very common. But I will suppose it to be only one Sort, and that a Loam; they are then still necessary, because of the several Conditions their Ground may be in, in different Seasons of the Year, &c. A Proof of which is obvious in the more plentiful Production of Corn, Turneps, Grass, and other Vegetables on the Land of him who is Master of most Sorts of these Ploughs.

Operations of different Ploughs.

Fallowing a stiff Soil. — If a Crop of Beans or Pease grew last on four thorough Stitches, then either with the double, or any of the single Fallow-Ploughs, plow them into four thorough Stitches again; the first will do it at a Bout, or going once backward and forward, when the single one must be drawn four Times in all; and by this Sort of plowing is almost all the Ground removed, so that, where the great Partition-thorough was before, the Ridge of the Stitch lies now. The next time, or the first Stirree, plow it again in the very same Manner;

Manner; but, the third Time or second Stirree, the Stitches should be plowed into Bouts, with the single Fallow-Wheel-Plough. After this it should be thoroughged down, and harrowed plain for plowing the Ground next Time cross-ways; and sowing Wheat in Stitches.

A second Way to fallow a stiff Soil, — Is to plow Barley, Oat, or Pea Subbles, that lay in broad Lands before, into broad Lands again, which is what we call clean Plowing; and, after it has lain some Time, either harrow it or forbear, as the Ground is more or less fine, and bout it a-cross; then, at the next Operation, bout it again off the last Bouts; after this, thorough it down, and harrow it plain for plowing, and sowing Wheat in Stitches, or broad Lands. These are the two best Methods for reducing stiff Clays, or sour Loams, into a fine sweet Tilth against *September* for sowing Wheat, for these tenacious surly Soils will seldom yield to a single Bouting; therefore, for Assurance, the most judicious Husbandmen, in our *Chilturn* inclosed Country, commonly give them two; however, this Work should have been begun in *April*.

A third Way.— 'Tis the Method of some to fallow their stiff Ground which lay last in broad Lands into Bouts; the next Time they plow it into Bouts again, after this, they thorough down the Bouts, and harrow it plain, when it is ready to plow and sow their Wheat. But this last is not so good a Way as the two former, because it does not clean the Land so well; however, this ought to be well observed, That two Boutings are better than once four Thoroughing, tho' the single Wheel-Plough goes not oftener in two Bouts than in one four thoroughged Stitch; yet is the Bouting far more preferable on Account of its laying the Land deeper and sharper up, for the Sun and Air to penetrate its Body the easier.

A fourth Way.—Others again having Pea-Stitches, which, when last sown, were harrowed down very flat, which Posture makes them fallow it into four thorough Stitches a-cross the former, and after they have lain some time, they harrow them lengthways, and make Bouts off the four thorough Stitches; then they bout it again, but the next time they thorough them down, plow, and sow their Wheat in Stitches on a stiff stony Ground. As I said in last Month, better an *April* Sop than a *May* Clot; yet this Neglect often happens, by Reason they have no other Grass than what the Fallow-Land affords to feed their Ewes and Lambs, but then such Farmers run a great Risque of a good Tilth, either for Turneps or Wheat; however, better late than never, remembering well that a late Fallow makes a raw Tilth, unless a dry Summer succeeds. Again, the Effect oftentimes of a late Fallow is, that your Wheat will be overtaken the following Year with the destructive black Ben-net, &c. which generally, where it is thick, ruins a Crop of Corn, and then see if Weeds will pay Rent. The good Husbandman, who fallowed the Beginning of *April*, the latter End of this Month, will be making his first Stirree, when the bad one will be only fallowing his four Ground, as may be too often seen in but little Distances, with Regret, by Men of Judgment, who travel the Country.

Plowing easy. — Now you, that keep but two or three Horses for plowing *Chilturn* stiff Land, may very likely, in this Month, meet with dry hard Soils, that require four or six Horses to draw the Wheel-Fallow-Plough, which turns a Thorough of 12 or 14 Inches broad, and proves too hard for weak Teams. To remedy this, use the Wheel Stitch Pea-Plough, which turns only a Thorough of about eight Inches broad, and you'll find it go easier by one Horse in four than the other can; and indeed

it is much better for the Land, because it cuts it into narrower Thoroughs, and therefore fines it sooner, and prevents the Growth of Weeds much better; so likewise will the before-mentioned one Wheel, or Foot-Plough do as being much lighter in its Iron and Wood Work. But where you have a strong Team, the two Wheel Fallow-Plough will certainly do the most Work in the least Time; and where there is Occasion to use this sort of Plough much, it is very well worth while to have two Sorts of them, one to plow Bouts with, and the other broad Lands; that for Bouting should have a broad Board an Inch higher than the other, that it may lay up the Ridge secure and sharp, and its Sheaf and Share pitched more landing than the common Sort. But, besides the Pea-Stitch and Foot-Ploughs, the Bobtail-Wheel-Plough is now much used for a weak Team, for that its picked short Share will not clog like others, but is lighter both for the Horses and Man.

The Sluggard Husbandman.—It is an old Saying, that the Sluggard Husbandman succeeds once in seven Years, but of late it fell to his turn oftener, for, in the Years 1734 and 1738, the Weather was so mild and wet, that it caused the well-dressed Grounds to produce such rank Wheat, that it yielded hardly above half a Crop of Corn, but a great deal of Straw, and at the same time so fertilised the poor rough tilled Lands, as made them return full Crops. We say a dry *March*, a wet *April*, and a dry *May* make Plenty; but if these three Months are wet, there will be a great deal of Straw, and little Corn. But now you, who bouted up your Oat and Pea Stubbles, for sowing Turneps in *June*, should have bouted them off the last Bouts in *March* or *April* at farthest; but you that bout for Wheat, and have not done it last Month, neglect it no longer than this. He is an ill Husbandman that has a Tith to make, when he wants it.

A quick Way to make a Tiltb. This I never knew but one Man do, which was after the following Method, viz. at a Fallow-time, either in this or last Month, where the Ground was not too clung and hard, he bouted his Stitches or broad Lands, till he had done ten Bouts ; then immediately returned where he begun, and bouted off the last Bouts, and in this Manner proceeded till he had done the Field : Now why he plowed in this uncommon Method, was to make a Tiltb of the Ground as soon as possible, for single Bouting, in it self, is reckoned but half Plowing, but this double Work in one Day is whole Plowing ; yet I don't doubt of an Objection in this Case, and that is, by so doing, he turns up the Grass again, which he plowed in the first Bouts ; to this I answer, that it is an Argument of no great Force, because the Earth is all, or most of it, removed from one Place to another, and thereby in a great Measure prevents the Re-growth of the Grass and Weeds ; but there will be no need of any such Objection, if such Boutings are performed in dry Weather, for then one Plowing is oftentimes better than two in wet Seasons.

How to plow a Clover-lay, in order to obtain a good Crop of Wheat.—You that design to sow Wheat in a good Tiltb after Clover, plow it up immediately after the first Crop is eaten or mowed off (as is commonly done in this Month) into broad Lands, for the Crust to lie and rot ; then, about six Weeks after, harrow it plain ; when this is done, hack it across, and so let it remain till after Harvest ; then harrow it soundly, and if it is fine enough, dung or fold, and sow Wheat in Stitches : But if it is not a thorough good Tiltb, hack it a second Time across the last Way, then harrow it plain, dung, and sow.

Plowings to be performed in May.

For Wheat.—Towards the latter End of this Month the first Stirree, or second Plowing after Fallowing in *April*, is generally done in the *Cbilturn* inclosed Fields; this is by some called *Twy-fallowing*, and is either performed in broad Lands, in Bouts, or in four thorough'd Stitches, for sowing Wheat in *September* or *October*: If in Stitches, off a broad Land, it is the most difficult Sort of Plowing of all others, because the Plow-man has here no Guide, but his own Judgment to direct him; whereas, when he makes a Stitch off a Bout, or off an old Stitch, he cannot well miss it; but he that can raise a four thorough Stitch, and lay it round and handsome off a broad Land, is a Workman indeed. This therefore, as I said before, is an excellent Way to prepare all stiff Grounds for Wheat, because it best kills Weeds, sweetens and hollows the Earth, and exposes it beyond all other Methods, to receive the nitrous Influences of Air, Rains, and Dews.

Bouting for Turneps.—In this Month likewise, some will stir that Land which they fallowed in *April* in broad Lands; thus, they first harrow it across, and then bout it across; after which, it is to lie some Time, then they back-bout it; in the next Place, they first harrow it plain overthwart, and plow it across into broad Lands, for harrowing in Turnep Seed. This is an approved Way, to reduce a stiff Earth into a sudden Sweetness, and make it very fine with all.

Hacking for a Crop of Turneps.—In this Month also, that Ground which was fallowed in *April* into broad Lands, for sowing Turneps in *June* or *July*, is commonly stirred in this Month into Hacks, which after they have lain a Week or Fortnight, the Hacks are to be harrowed across; and then, just before
they

they sow Turneps, they draw out their Thoroughts across, and plough across, the last Way into broad Lands, in which they harrow their Turnep-Seed ; and thus a stiff Soil is expeditiously brought into a Fineness, for this useful Root to grow into a desired Bigness.

A Process of plowing up Bean Stitches, for sowing Barley and Honey-Suckle Seed.—In November 1735, I plowed a Field of four thorough Stitches into four thorough Stitches again, which lay in this Posture till the Beginning of *March*, when I back-bouted the Stitches, and let them so remain till about the first of *April*, and then I harrowed it plain : After this I plowed the Ground into broad Lands a-cross the last Way, and immediately, on the rough Earth, I sowed short Horse-dung well rotted, that I had saved under Covers the Winter before, mixing with it Rabbit-Dung, Hen-Dung, and Ashes, which, with the Help of Chamberlye, made together a rich Composition ; then I directly sowed two Bushels of Barley Seed all over one Acre of this rough Land, and harrowed it plain once in a Place after the Seeds-man ; which as soon as done, I sowed two Bushels more of Barley all over the same Ground, that was followed by the Harrows twice in a Place, the same Way it was done before : Then I sowed 16 Pound Weight of Honey-suckle Seed, and only harrowed it once in a Place across the last Way, which filled in the Thoroughts, and laid the Ground all even ; thus I finished a one Acre Field, that was in this Manner laid down for good, to become a Meadow in time for feeding Cattle. And here I should have published a Case, that a Gentleman sent me, of converting a low wet grazing Ground into plowed Land, by way of Improvement, with my Answer to the same ; but I have not Room. *N. B.* I answer Letters between *Michaclmas* and *Lady-Day*, provided Postage is paid to my House.

C H A P. II.

Of Barley, Wheat, &c.

THE Nature of Vale Land for Barley.—In the large and fertile Vale of *Aylesbury*, as well as in most other low Grounds, their Earth is generally of a black and bluish Clay, or a marly dark coloured Loam, clear of Stones, which in Winter is very apt to stolch by the Tread of Cattle, and by the Wash of frequent Rains that easily converts it into a muddy Consistence, and in frosty Weather from a stiff Clot, it is presently reduced into a short crumbling loose Body, which readily lets out the spiry Blade of new sown Corn; also in this their low Situation, they are very apt to suffer by Floods, which sometimes are so long retained on their stiff Soil, that the Vale appears almost like a little Sea, ruining their Grain, and rotting their Sheep: On the Contrary, in the Summer Time, their open Fields are soon dried, and their clayey Surfaces become so hardened, as to cleave asunder much more than any other Sort of Land, whereby their Barley in particular is often stunted in its Growth, and dwindles into a short, lean, thin Crop, on their high, exposed, ridged Lands; which at first was invented for the Security of their growing Corn against overflowing Waters.

Time of sowing Barley in the Vale.—The Vale-Farmer thinks he runs a Risque of the least Danger, when he sows his Barley about the Twelfth of *March*; for though, by this early Sowing, he is under the more Danger of being hurt by Floods and Frost, yet is he also intituled to the Hopes of a moderate, moist Time afterwards, that may bring on such a timely Head of Barley, as to cover and shade its Roots soon enough, to withstand a dry

dry Summer, and so enjoy a plentiful Crop at Harvest. But if, to avoid the ill Effects of *March* Floods and Frosts, they should defer sowing their Barley till the Beginning of *April*, which they seldom do, then they are under no less Apprehension of suffering by succeeding Heats and Droughts ; so that after plowing, sowing, and paying Rent two Years together (which they here do when they fallow for Barley) without receiving any Profit, they frequently come off with half Crops. Now to prevent the great Losses that thus may happen to Crops of Barley, if sown late in *April*, and even at the Beginning of *May*, observe the following Account, viz.

A most excellent Receipt for increasing Crops of Barley.—Take one Bushel of Barley, and boil it in six or more Pails of Water, till the Grain bursts : Strain out the Liquor, and give the Barley to the Fowls or Hogs ; while the Liquor is hot, dissolve in it three Pounds of Crystal Nitre, and a Quarter of a Pound of green Copperas in Powder : To which add one Quart of pure Soot, and as many Pailfuls of Water that drains from a Dunghil or Urine of any Sort, as will, when the Grain is put in, make the Liquor swim four or six Inches above it. Now observe, as soon as the Nitre. and Copperas are dissolved, and while the Water is hot, to pour it on three Bushels of Barley Seed, into a Tub with a Cock and Tap Whips, and then immediately put in the Dunghil Water and Soot, as aforesaid. Let the Grain lie soaking herein, from one Evening to another, when the Liquor must be drawn off, and the infused Barley laid in a Heap all Night, on a Floor to drain. The next Morning, with a Shovel, mix it well with powdered Lime, and carry it in a Sack to be sown in the Field. The Liquor that is left will serve again with fresh Addition, and is admirable to water a Garden

Garden, or make a Tree grow to Perfection in Half the usual Time, if judiciously applied; and thus you may carry on your Sowing of Barley many Days, by as often renewing the Preparation I have here plainly given Directions for: And accordingly, by punctually observing them, you will, by the Blessing of God, certainly find the Barley to spread with large Blades, and be of a blackish, green Colour, soon after it appears above Ground; for it is the Nature of the Nitre to agree so well with this Corn in particular, as to cause it to grow up into twenty, thirty, or forty Stalks, from one single Root, which will so cover the Ground with their branching Tops, that the Wets and Dews will easily make a Lodgment, and the Roots likewise be so well secured from the Damage of Droughts, that, if no Rain happens for two or three Months together in the hottest Seasons, there will be Moisture here enough to carry forward the Growth of the Crop in Clays, Loams, and even in Chalks, Gravels, or Sands; besides which, there is this good Property belonging to this Process, that the Barley at Harvest is generally all of one equal Ripeness, which renders it the compleatest Sort, for making true Malt: By all which Management, if your Ground was in a fine Tilth, dry, and well dressed with good Manure, when the Seed was sown, you need not doubt of having seven Quarters off an Acre.

The Sort of Barley to be sown in this Month. By some, Barley is sown the Beginning of this Month, oftener out of Necessity than Choice: As when the Farmer, by Multiplicity of Business, can't get his Land into a fine Tilth Time enough, or that he has not eat his Turneps off before now, or is retarded through the Inclemency of Weather. In all which Cases, the Rathripe, or *Fulham*, Barley is now the properest to sow, either in Vale or Chil-

turn Lands, because it grows quicker than any other Sort ; for, though it is sown late, it is early ripe, and will prove the best of Barley for Malt-
ing, after being once sown in Loams or stiff Lands, which gives it a much larger Body than the sandy Ground it came from : So likewise in Chalks, Gravels, and Sands, in case you should happen to be behind-hand in sowing your Barley, which more particularly ought to be done, in such hot dry Soils, sooner than in this Month, you ought by no Means to neglect steeping the Seed, in this my excellent nitrous Liquor ; because, at this Time of the Year, the Droughts are commonly more powerful, and will sooner burn up the green Barley in such dry Soils, if sown in the naked common Way.

The Opinion of a certain Virtuoso, concerning steeped Barley. “ This I take, *says he*, to exceed the dry
“ Sort, in making stronger Malt : for as Nitre is
“ so essential to Vegetation, that it is its funda-
“ mental Principle, and the Grain by being there-
“ with fully impregnated and saturated, when it
“ enters the Ground, immediately joins in Con-
“ tact with that in the Earth and Air, which
“ causes it to shoot into many *extra* Roots and
“ Stalks, which serve (as a Reservoir) to lodge
“ and retain the nitrous Salts, till, the Corn increa-
“ sing in Growth, they are, by the alternate In-
“ fluence of the Dews and solar Heat, so rarefied
“ and exalted, as to insinuate themselves into the
“ vegetative Juices ; and as the hot Season advan-
“ ces, these Salts become more and more fixed in
“ the Grain, by the Exhalation of the phlegmatic
“ Part of the Sap, which thus ripens the Corn,
“ and then leaves Plenty of a large full-bodied
“ Grain, distended and loaded with the aforesaid
“ Matter ; which, consequently, must yield a
“ greater Spirit (when malted) to the Liquor
“ brewed therefrom.”

The Quantity of Barley Seed to be sown. On this Account, I shall observe, that the Quantity of Seed ought to be proportioned to the Nature of the Soil, Tilth, and the Season of the Year. *First*, as to the Soil: On stiff Loams and Clays, some will sow, in the common Way, four Bushels on one Acre, because, on this surly, cold Glebe, the Seed is very apt to bury, chill, and die; and therefore such Land should be assisted with good warm Manure, as will enable the Barley to grow thick, and kill the Weeds, which, in such sour Ground, are very apt to get rampant, and destroy the Corn. On the Contrary, in many of the light, sandy Grounds of *Norfolk* and *Suffolk*, they sow but one or two Bushels on an Acre, and, if they increase the Quantity of Seed, it is as the Land is heavier: Because, as they say, their light, poor Ground is not able to carry more; for, if they were to sow it thicker, such Land would return an hopper-eared Crop at Harvest, or, in plainer *English*, a little Ear, with a few Kernels.

Secondly, If a stubborn Soil happens to lie in a sour Tilth, as it is very apt to do, there must be the more Seed sown, to allow for a considerable Loss, by the Cover that the clotty Part of the Earth will cause, and so deceive the Farmer, if he allows not enough to prevent this Misfortune. On the Contrary, when Land is in a fine Tilth, the less Seed will do; and this is one Reason why in sandy Grounds they sow so little Seed; for that, in such pulverised Tilths, hardly one Kernel misses coming up. *Thirdly*, If you sow late, there must be the more Seed sown, for it is a standing Rule in Husbandry, that, the later you sow any Corn, the more Seed should be allowed; because then the Grain will never gather, branch, nor kern so well as the more forward sown, as being drawn up so fast by the powerful Attraction of the Sun, that

it will run apace into Stalk, and less into Corn; and because the Fowls, in late Seasons, live mostly on the Grain sowed then, as having little elsewhere for their Subsistence; and here they have sometimes a long Opportunity to scratch with their Feet, and dig up with their Beaks, the Barley Corns, before their Blade is seen above Ground, when a dry Summer directly succeeds the new sown Grain, to the Destruction perhaps of Half the late sown Crop; from whence I take the Opportunity to urge the Necessity there is of making Use of my invaluable Method of steeping the Barley Seed, which surely prevents the fatal Consequence of sowing late, by causing it to run into Branch in the driest Seasons, and thence into many and large Ears of Corn: For the obtaining of which, let this be always observed, that wherever four Bushels of Barley Seed was used to be sown, in the common Way, there must be but three Bushels sown of the steeped Seed; and so in Proportion for any Ground whatsoever, that there may be Room enough allowed for each Kernel, to make its many and strong Branches or Stalks.

To reduce a rough Tilt, and make it fine presently for Barley. Now in Case your Land lies rough and clotty, the spiky Roll I mentioned in last Month (*Page 17*) may be of Service to go before the Harrows for reducing at once the furly Glebe into a fine Condition; but where this new invented excellent Machine is wanting, then use the common Wooden Roll, and your Harrows directly after that, and sow your Barley; but never roll it as soon as sown, as some injudicious Men have done, and so bury great Part of their Barley Seed, but roll it some Time after, when it is about Half a Handful high; as I have more particularly treated of in my last Month: And what great Importance such a spiky Roll is of, for suddenly
reducing

reducing all stiff, rough Ground in a dry Summer, that Farmer must consequently experience, very much to his Profit, who is furnished with such a ready Conveniency.

Sowing Barley Seed in Chiltun Lands. For this, we plow our Ground into broad Lands of nine Steps broad each, by some called *round Work*, by which a Water-Thorough lies on each Side of it, and a small Ridge or Rising in the Middle: Here the Seedsman goes about a Yard off the Thorough, and sows a Cast, then returns the same Distance of the Ridge, and sows another Cast, crossing the same Ground with his Throw, whereby it is twice sown over, and thus again, on the other Side; by which Means the Seedsman goes twice up and down a broad Land, before he has done sowing it; but the new Way of sowing Barley in dry Loams or Gravels, &c. is to do it in a double, broad Land: That is to say, instead of our common Lands of nine Steps broad each, we make them eighteen Steps broad, and then there will be but Half the henting Thoroughts in the Field, which saves Time and Labour, and the Corn will come evener and better; because the Grain is seldom so good in the Thoroughts, as elsewhere: Here, when the Seedsman begins to sow, he proceeds in the Middle of each Land, and at every Step he makes a Throw on Half the Breadth; thus at two Throws he sows the Breadth of a whole Land; and when, at the End, he returns and sows it in the same Manner back again, in an opposite Way, by which he sows the Land twice over. This Method is allowed to be the best of all others in dry Grounds, but, in wet Soils, the narrow Lands are best, because, the more Thoroughts, the drier they lie,

Sowing Barley in Vale Lands. These admit of four Sorts of Shapes, according to their Nature
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and Situation. *First*, In the Vale of *Aylesbury*, they always lie in one Posture of Ridge and Thorough, and are sowed at twice ; the first Cast of Barley Seed is plowed in, and then immediately another is sown and harrowed in, to make it all come even. *Secondly*, In their low Grounds about *Rickmansworth*, they make their Lands eight Bouts wide, or four Steps and a Half broad for sowing Barley and laying it dry. *Thirdly*, In some Parts of *Middlesex*, they sow their Barley in four Bout-Lands, for the same Purpose. *Fourthly*, In some of the Eastern Parts of *Hertfordshire*, they plow their Ground into three and two Bout-Lands, to keep the Barley from being drowned, which they harrow so even, as gives the Scitheman Liberty to mow down the Corn almost as well as in level Grounds.

A new Way of increasing Crops of Barley by sowing it in Drills. This Method is lately invented for destroying the several destructive Weeds, that used to spoil many Acres of Barley ; particularly, that called *Bodle* or *Gould*, which commonly, in sandy and other light Grounds, comes up in great and tall Branches, with their yellow Heads, notwithstanding the Earth before Sowing was ever so finely plowed, and which keeps Company with the Barley to the last, so thick as to defy the Weed-Hook or Hand for keeping it down; and is so common a Weed, that few sandy Fields are free from it. It is therefore, that they very judiciously, of late, sow their Barley in Drills or Furrows, in such Sands, Loams, Chalks, &c. as are clear of Stones, and will easily admit of this Operation by a most excellent three Wheel-Plough, which lets the Barley out of a Hopper, in a very regular Manner, into Drills, which it makes about one or two Feet asunder ; and which by a small Alteration afterwards is to be drawn by one Horse, and
made

made to serve as a Break, or Hough-Plough, for killing Weeds between the Rows of Corn, and moulding them up to a prodigious Advantage : Which Plough, as well as another just invented for doing the same Work, in low, wettish Grounds, I shall particularly describe in my next monthly Book, and there recommend their most serviceable Uses.

To improve Crops of Barley by the Fold. If, as soon as your Barley is sown, you fold your Sheep on the same, it will cause it to branch, and grow faster. But as this Husbandry may meet with its Inconveniences, as well as be attended with Success, I shall here relate the two following Cases, which may be worthy your Observation, viz. A Farmer by me having had but a poor Crop of Turneps on a loamy Soil, that before had been but half plowed : When the Turneps were eaten off, he gave the Ground one Plowing, and harrowed in his Barley, on which he directly folded : But he had no Barley in many Places, and but a small Crop in the better Part. The Reason was, that, the Land being sour and clung, the Barley Seed had not room to be buried deep enough by the Harrows, so that the Feet of the Sheep trod it out of the Ground, instead of treading it in ; and this Misfortune was the greater for the dry Weather that followed after ; because, by this, the Seed was the easier displaced by the Tread of the Sheep ; whereas, had it been a wettish Time, it had not been so much raised out of the Earth. The other Case was thus : At the same Time I had a Field of Turneps, that was a good Crop, which, as soon as eaten off, I gave it only one Plowing, and harrowed in my steeped Barley Seed, on a loamy Soil in *April*, and immediately folded on the same, till the remaining Part grew above my Shoes in this Month ; and it proved an excellent Crop. The Reason was, that my Ground was
made

made a fine Tilth by several Plowings before the Turnep Seed was sown, which by houghing, and the great Cover of the Leaves, the Earth was kept in such a hollow Condition, that the Feet of the Sheep helped to sink the Seed lower, instead of treading it out of the Ground. Therefore, none ought to fold Sheep on their Barley, unless the Ground is in a good Tilth, and lies loose; and then you will also avoid the common Danger of spoiling the Barley, by the Feet of the Sheep, while it is chipping or sprouting, because, when the Ground lies thus hollow, there is a sufficient Quantity of Mould to cover and guard it from such Damage. Likewise observe, that in Gravels, and other binding Grounds, if it is wet Weather when the Fold is over the Barley, the Grain will be so fastened in by the mortarising Nature of such Soil, and the Feet of the Sheep, that a great deal will never come out; however, by taking Care not to fold in a rainy Time, you may, on such Ground, carry on your Folding, till the Barley is five or six Inches high, and near spindling, with great Success: But, for further enriching Barley Land, some, that fat their Sheep on Turneps, will every Day dig up those which have been scooped by them, and feed their Store-Sheep with them every Night in the Fold, which these Sort will greedily eat after having been kept all Day on a short Bite of Grass; and thus such Ground will be three Times dressed, once by the fat Sheep, next by the Store-Sheep, and lastly, by the same after the Barley is sowed; and indeed this is the best of Dressing, not only for making the Corn stand fast against Storms of Wind and Rain, but also for causing a great Crop, and preventing its being damaged by Worms.

Barley fed by some, and by others made Hay of. On the first of May, 1734. A Crop of Barley of my Neighbour's

Neighbour's was so rank, that he fed it down with his Sheep (it being sowed the latter End of *February*) and it proved a very great Benefit to it, for it shot so strong afterwards, that it gathered into many Stalks from each Root: Yet is such Management to be done with great Precaution, for, though it may help some, it may spoil others; as for Example, if such a Crop of Barley was thin, the Ground weedy, and the Land not in good Heart, the Weeds would probably have gotten the better of the Corn, and spoiled it; but where the Ground is rich, and the Land clean, dry, and warm, it may be ventured on, in this Manner, with a good Prospect of Success. Sometimes Barley, in wet, warm Seasons, is so rank in this Month, that it is laid flattish, and then some will top it with a Scythe; others will mow it almost close, and make Hay of it; but then it must be done before it spindles, otherwise you may endanger the whole Crop.

Barley eaten by Worms. — The Winter 1735 being mild, the Worms lay in the Spring-time near the Surface, and destroyed a great deal of Barley, by gnawing it just above the Root. My next Neighbour sowed a Field with Barley early in *March*, that by the Middle of *April* was most of it devoured by Worms, and spoiled by them, and the Chill of a cold, wet Time, which brought him under the Loss of Labour, Time, and Seed, and obliged him to plant the same Ground with Garden-Beans directly: Now this Damage was brought on the more, by his dressing the Land with Dung, which, being of a warm hollow Nature, presently invited these Insects towards the Surface for feeding on it; and then, meeting with the new sprouting Blade of the Barley, it served them as a delicious Food, which they greedily eat after a long Winter's Confinement in their deep Cells; and the

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more, because there was no other Vegetable, at this Time of the Year, in the ploughed Ground for their Subsistence, as it evidently appeared in those Places where the Dung lay ; for here the Corn was eaten, when at the same time that escaped, which was not dunged ; and therefore Sheep-folding, Soot, Lime, Horn-shavings, oily or greasy Rags, or such as had been sprinkled with Urine several times, or Tobacco-Sand, or Peat-Ashes, and more particularly the Nitre, &c. with which the Barley Seed is loaded, are good Preservatives, and much safer against the Damage of Worms and Slugs, than common Dung. But this was not altogether occasioned by the Dung, for there was another Cause no less fatal to the Destruction of the Barley ; and that was a Lay of Clover, that this Field had been under two Years before, which naturally increased the Breed of Worms, for all Restings of Ground are as so many Friends to this Insect ; especially in wet, flat, loamy Land, as this Field was: An Instance of this was plain to my Observation, in some sandy Mud, that had lain three Years in the Side of a Hole, where Road-Sullidge run into by the Wash of Rains, which I had emptied every Year, but, a small Part of it escaping the Shovel, it became full of red Worms, the rest being intirely free ; therefore, many are so timorous on this Account, that they won't sow Wheat or Barley in such Ground, but a Crop of Oats first, which is less valuable, or Horse-beans, that is less hazardous. As to Wheat, I have happily discovered a new Secret, for soaking it in a Liquor, that will effectually keep off all Damage by Worms, and at the same time prevent any Loss by Smut, &c. and which I intend to publish in the Month of *September*.

First, *St. Foyne sowed with Barley*.—If you could not sow this Seed with Barley in *March* or *April*, it may be done the very Beginning of this Month ;
and

and it may prove a good Crop, if Showers succeed in due time; and for the better securing its Growth, and making it come forward, you may sow fifteen Bushels of Coal-Soot over an Acre, as soon as the Barley and St. Foyne Seed are sown, or you may clap your Fold upon it: But, of the Improvement of Barley, more in my next Monthly Book.

Common Wheat, its Condition and Management in May.—If Wheat looks yellowish in this Month, and continues so throughout the whole, it will never rightly recover that Summer; because then it is on its Shoot or Earing, and past Hopes: But if it is sick in the Beginning, and recovers before the End, it may chance to be a good Crop; for all Wheat should may, or look yellowish in *April*, and be of a black Green in *May*: Or take it this Way; if Wheat holds its Colour throughout *April*, and this Month, there is no great Danger of a good Crop. If it thrives in *March*, it generally mays in *April*; if it thrives in *April*, it commonly mays in *May*. When it mays in *April*, it is right, but wrong if in *May*; for then it should, towards the latter End of the Month, thrive and shoot into Ear, instead of maying or yellowing; which is often caused for Want of the Ground's being in Heart, to enable the Wheat to withstand the cold and chilly Seasons. But, to be more particular, your forward sown Wheat often grows so luxuriant, in the Beginning of Winter, as to spend itself too soon, and especially, if followed with a mild Spring, which causes it to grow so rank, as to want Strength, in this Month, to carry it on, and then, in course, it must have a sickening Time to check it, in order to make it shoot with the greater Vigour afterwards. Now there are two Extreame of Weather, that sometimes happen in this Month, which prove fatal to Crops of Wheat: One is

Frosts, as it happened in *May*, 1734, when Hail-Stones fell successively for three Days, which being of a poisonous, cold Nature, and very heavy withal, beat down and hurt the Spindle of the Wheat, and Stalks of Pease, making the latter red-headed, and causing many to die : This was a Season so severe, that on the eighteenth Day the Icicles were seen to hang at the Eves of Houses ; but the poorer Sort of Wheat suffered most. On the contrary, at another Time, about the Middle of this Month, the Season having been mild and rainy some Time before, the well-dressed Wheat and Barley suffered much, by their luxuriant Growth ; insomuch that a great deal fell, before it was shot into Ear, which proved of very ill Consequence to the Farmer, because vast Quantities never did rise again, and did not half kern, especially in the Vale Grounds, which are the richest Soils ; and this Misfortune proved the greater, where the Wheat was youngest and weakest in Stalk ; for, when this happens to Wheat at an older Growth, it is often strong enough to get up and recover. When Wheat is rank too soon, it has tempted many to mow or feed it, in order to bring it under a more regular Growth : But as this Management is better or worse, according to the Nature of the Grain, Land, and Weather, and that there is a great deal to be said about it, I shall defer it for a more proper Month. But, before I leave this Subject, I must observe, that when Wheat is sown, at a right Time, in a proper Soil, and the Seasons of the Year prove favourable, there are many Acres that never may or sicken at all, yet hold their Growth and Colour from the first to the last, in right Order ; then such Wheat is in its highest Perfection. About the Middle of this Month, 1736, the Wheat in the *Chilturn*, high Ground, especially, looked short, yellowish, and sick, by

means

means of a very long cold, dry Season, which ruined many Crops that were not well dressed, because the Ground had not Strength enough to make it run and rally again, as that in Heart did, and recovered. There was a Field of latter sown Wheat, which in the Beginning of *March* looked at some Distance, as if nothing grew in it ; yet the Ground being clear of Weeds, and in tolerable Strength, and the Wheat not having spent itself in Winter too much, in the Spring it gathered to that Degree, that some of it had fourteen Ears from one Root, as it grew in a loamy, gravelly Clay, and proved an excellent Crop at Harvest.

Buck, Brank, or French Wheat, its Nature and Uses—It is the Opinion of some, that it does most good in Clays and clung Grounds to hollow them ; others say, that it is best used in dry, binding Gravels or Sands, to keep the one loose, and the other moist ; but, in some of the sandy Lands about *Godalmin*, they dare not sow it, lest it make the Earth too light for common Wheat ; yet in heavy Sands, sandy Loams, Gravels, and such Sort of light Grounds, it is certainly best sown, either to plow in as a Dressing, or for Seed. In Chalks it is improper, because it loosens them too much. In stiff and wet Lands, it is apt to rot both in Root and Ear, as being itself a very succulent Plant, and of a tender, cold Nature, being easily hurt by some Winds, Lightning, and Frosts ; and therefore warm light Soils suit it best, and, in all, it is a very great Killer of Weeds, where it grows thick, as it commonly does in Tilths, though you sow but one Bushel on an Acre, and is found by many to answer that great End, which all Farmers endeavour after ; namely, to reap a great Advantage for a little Charge. I am the first, that have sown it in our Parts for a Dressing, though it has been sown in *Norfolk, Suffolk, Surry, Kent, and Berkshire*
many

many Years, and is now more and more propagated. As I live twenty-seven Miles from *London*, it is a great Expence to have Manures from thence, for sometimes Soot is a Shilling a Bushel, so that 25 s. is the Charge of dressing a single Acre well, when Half a Crown will do in *French* Wheat, and yet this will kill Weeds, when Soot will nourish some; the Wheat-dressing will last three Years, when the Soot will last but two; the one is also the more certain than the other, for, in dry Seasons, the Soot, by its sulphureous Quality, will burn up a Crop of Wheat or Barley to a great Degree, when the *French* Wheat will remain a sure and certain Promoter of Vegetation by its moist, hollow, fertilising Nature: Again, Soot, when it is laid, to the Quantity of twenty-five Bushels on an Acre, forces so vehemently either Grass or Corn, that, after two Years, it leaves a Poverty behind it, which this is so far from doing, that it is almost a Dressing the third Year, provided it be a full Crop at first, and plowed in at full Bloom, when the Stalks are fullest of Sap. This Grain is one of the greatest Drawers of the Earth, and has returned four or five Quarters of Seed from one Acre, which is excellent for feeding Hogs, and Poultry. In Blooming-time, when this is to be plowed in, it is very serviceable for subsisting Cattle in a little while, who will tread it down, and make it the fitter for this Purpose. You, that dress your Land by Sheep, may fold them in another Ground, while this is provided for, and that without any Risque of your Cattle's breaking out into your Neighbour's Fields, for here is Meat in Plenty. So, when your Teams are all busy, in some Ground there needs but one Plowing to harrow your common Wheat in on this *French* Wheat: It may be sown in *July* or *August*, for Cattle to graze on it in *November*, or sooner. In

Shropshire

Shropshire they grind *French* Wheat very fine, and make thin Cakes on a Back or Bake-stone, which is two or three Feet diameter, on which they put a Sort of Batter made of this Flour, Milk, and Yeast, and when it is turned and done enough, they butter and eat it, drinking Butter-milk with it; this Cake is called *Jannock* or *Crumpet*, and is what old *Parr* of this Country eat all his Life: It feeds People to a great Strength and Stature.

The Culture of French Wheat. My Field was a gravelly Loam, that had a Crop of Oats last on it, and, on the tenth of *December*, I plowed it with the Wheel Fallow-Plough into Broad-lands, which I let lie till the Beginning of *March*, when I harrowed it plain, and then directly hacked it across with the same Plough. In this Posture it lay till the seventh of this Month, and then I plowed it again, and sowed rather above Half a Bushel of Seed on the rough Ground broad-cast, and harrowed it in once in a Place: When this was done, I immediately sowed my other Half Bushel, and harrowed across twice in a Place; by which Means I haled or covered it from the Fowls, and secured it better from the scorching Heats, than if it had been harrowed first before any was sown. If you sow this Seed, to plow its Crop in, for a Dressing to common Wheat, then you ought to sow it the Beginning of this Month, that you may have Time enough to plow it twice or thrice, which they do in some light Grounds, in Order to mix it well after it has first lain and rotted; but where it is to have only one Plowing in, then it may be sown the latter End of this Month. In some Parts, in their sandy Land, they plow it in with a Wheel-Plough shallow, and then immediately a Foot-Plough follows, and throws up a second Mould or Sand upon that, and then harrow in their common Wheat, to give it a deeper Bottom.

Bottom. Some, to have a Crop of this *French* Wheat, will make a Fallow and Dung for it, as for other Wheat. If it is sown for Seed, it may be done the latter End of this, or in all the Month of *June*; if Ground lies low and wet, it may be sown in two, three, or four Bout-lands; or it may be sown with the three Wheel Drill-Plough, and horse-houghed at several Times, and thus it will make it grow to a great Height, and produce Abundance of large Seed, if sown at

Feet asunder in Drills, which this excellent Plough makes, and at the same Time drops its Seed in the same out of a Hopper, in a most regular Manner, which afterwards must be covered by the Harrow: This Operation, though it is done for getting a Crop of Seed, yet, by this drilling and houghing Method, the Ground is finely prepared for a Crop of common Wheat to follow immediately this *French* Wheat, by plowing and sowing the same Ground cross-ways in four-thorough Stitches, or in Drills made in the last Intervals, and that without any Manner of dunging or other dressing; for the Earth being first made fine, and houghed up to the Rows of such Wheat, exceeds all Yard-Dungs whatsoever. As to the cutting, getting out the Seed, and housing this *French* Wheat, I intend to give an ample Account of it in the Month of *September*.

The Culture of Woold or Weld. This Month is a proper Time for sowing Weld among *French* Wheat: It is a Vegetable that is carefully cultivated by many Farmers of late in their light Soils, for these best agree with it, and though it grows well in dry Loams, Gravels, and sandy Loams, yet of late it has been found to flourish on chalky Bottoms, if the Seasons be kind; That is to say, if the Summer it is sowed in be dry, and the next a wet one: But it best of all agrees with dry, fresh Ground,

Ground, I mean where artificial Grass grew two Years before, and has had one Crop of Beans or Pease first off the same Land. Now the Reason why they sow Weld and *French* Wheat together is, because there is the longer Time to get the Earth into a fine Tilth, for both these Seeds require that in particular; it is on this Account therefore they sow Weld and *French* Wheat together the latter End of this Month. As soon as a Bushel of the latter is sown broad Cast, and harrowed in, they sow three Quarts of Weld-seed on one Acre, and harrow it in once in a Place, or twice at most, with light Harrows, for this is a small Seed, and will easily bury. The first Year they mow the Buck-Wheat off, and the next Year, in *June*, they pull up the Weld, and manage it as I shall shew in the next Month; and thus they will grow well together, because the Buck-Wheat kills the Weeds, and keeps the Weld from the Damage of Droughts. But this, like Turneps, is sometimes spoiled by the Slug and Fly in its Infancy; to prevent which, I intend likewise to make known a Remedy in *June* and *July*, that will effectually do. The Year 1738, a Load of these Stalks with their Roots was worth ten Guineas to the Dier for the yellow Colour. Weld will also grow among Oats, or Barley, sown in *March* and *April*, but not so well as with the *French* Wheat. Its of a hardy Nature, for it will sometimes grow on a course Tilth: I mean where Oats are sown on only one Plowing, this if sown with them will very likely grow if it is fine Weather at that Time; but then the Weeds should be carefully taken away, for as the Weld has but a small Root, its much endangered by them.

Cole or Rapes.— These that were sown in *July* or *August*, or *September*, may be fed 'till the Beginning of this Month, with Sheep, Cows, or Bullocks, and the same Land fallowed directly for Turneps

or Wheat. These afford the Farmer a vast Opportunity of Profit, for this, like Rye, may be fed in the Spring, when Grass and green Corn cannot; but the Cole or Rape exceeds the Rye, in that it may be fed earlier in Snows and near as late, for these will suffer themselves to be eat down two or three Times, and quickly recover again, which cannot so well be said of Rye. The Roots of these, being of the Cabbage Kind, draw very much Nourishment from a rich Ground, that forces them on, and gives them a new Head in a little Time, which again returns the Dung and Stale of the Sheep, to the great Enrichment of the Land and Profit of the Owner, who by this Means may keep his Money at Home, which otherwise must be expended in Dung, Soot, Ashes, Horn-shavings, Rags, and other chargeable distant Dressings, that are not so good and natural to the Land as this of Sheep. But as the Months of *July, August, September* are the properest Times in the whole Year for sowing Cole Seed; I shall enlarge no further on this Head at present, but defer it till then, at which Time I shall oblige the World with an effectual Method to secure it against the Fly and Slug, which are mortal Enemies to this valuable Vegetable while in its second Leaf.

Rye. — Your Rye that was sown in *August* or *September* is now eaten off, and your Ground in some Measure dressed with the Dung and Stale of Sheep or Cows, which makes such Land be the readier for another Crop. Some therefore will plow up and fold the same with Sheep, in order to get a Crop of Turneps or Wheat.

Turneps. — You that design to sow your Field with Turneps in this Month, I will suppose you do it, either to eat off forward with Sheep, in order to sow the same Ground with Wheat; or else to pull and sell them in *August* or *September*, otherwise

wise its too soon to sow them for a Winter Crop, because they will grow hollow, hard, and stringy before the proper Time of eating them with Sheep, unless you intend to eat the large red Turnep in *October* and *November* with horned Beasts. In order therefore to have the Turneps in full Plenty, and to make them grow large and quick: First and principally, let your Ground be well dunged, folded, or limed. In the next Place, the right Sort of Turnep should be resolved on. If for an early feeding or pulling, the *Dutch* white flat Turnep is a good sweet Sort, that will be ready to draw in eight or ten Weeks Time, if the Weather is propitious; in order to which, sow two or three Pounds of Seed on an Acre, and harrow it once in a Place, without any Pole on the Harrows, that they may be as light as possible, and it will prove a better Way than to harrow the Seed in with a Bush-harrow or Hurdle. But with us there are seldom any Turneps sown in this Month, because, as we feed Sheep with them, they will come too soon for a Winter Crop, and then they won't be near so serviceable to the Beast, as the late sown more young and tender Sort; for which Reason we seldom sow them before the latter End of next Month. Turnep Seed may also be sown out of the three Wheel Drill-Plough in Drills, which it makes to a Advantage at two or three Foot Distance each Drill, because here they may be allowed a large Assistance of houghed Earth to their Sides, the Weeds more easily destroyed, and the Turneps better pulled, to be eaten clean up in another Place. In this Month you may also sow the long *French* Turnep, called *Naveus*, that are much of late in use for Soops, &c.

C H A P. III.

Of Weeds and their Cure.

ALL Authors that have wrote on Weeds (as far as I can learn) have left the particular Destruction of many of the worst of them to be found out. And therefore, I shall here endeavour to make known the best Ways of doing it in the common Husbandry of sowing Grain broad Cast, or by straining it out of the Hand, which is absolutely necessary; because in the large Vale of *Aylesbury*, and some others, as also in many Sorts of stony, hilly, clayey, and hurlucky Grounds, neither Drilling nor any other Way can be used. And although the Weed Hook and Hand are the most common Instruments for weeding Corn, that is thus sowed promiscuously, yet both in this old Way of Farming, as well as in the new Drill Way, the Plough and some other new Machines are certainly the best weeding Tools of all others, as I shall hereafter shew.

Of two new invented Weeding-Ploughs, the Sheim Break, Niget, &c.—It was in the Year 1737, about eighty-five Miles from *London*, that I first saw the three Wheel-Plough, which for its great Uses in multiplying Crops of Grain, Turneps, and artificial Grasses, and killing of Weeds, deserves Admiration, and to be made use of wherever the Ground will admit of it. The second is also a very ingenious Invention, to supply a Foot Plough as the other does the Wheel Sort: They are both made to drill Corn, Turnep, and Grass Seeds out of a Hopper; and with a little Alteration, will very expeditiously, and in the cheapest, surest Manner, destroy all Sorts of Weeds in the Intervals, besides keeping the Ground in a most fine Tilth, to sow a suc-

a succeeding Crop; infomuch, that by the Help of these, Land may be sown, and Crops had every Year, without any Danger of breeding the wild Oat, or any other Weed, which would certainly happen, if it was constantly sown in the common Way without fallowing. The Sheim Break, or Niget, have also their Share in extirpating Weeds, as well as the several Sorts of Houghs, which are all of so late an Invention, that but few Farmers are now in Possession of them: But their great Importance will certainly, speedily bring them into Use more and more, because they may be so managed, as to save the Expence of all Manner of Manures or Dressings, and perform many other valuable Matters, that are too tedious here to enumerate; but I intend to be more particular in the Account of them in next Month.

Curlock or Charlock.— This is one of the commonest Weeds that grow among Corn, Turneps, &c. in Fields, and of so hardy a Nature, that where its got to a plentiful Head, its very difficult to destroy it, because its Seed has so much Oil in it, as enables it to withstand one Winter and Summer Fallowings. In wet warm Seasons it is, like most others, most predominant; so that about the Middle of this Month, it has provoked some to employ many Hands to pull both the yellow and white Sort up by their Roots; you may give it to Sheep, who will greedily eat their Leaves and flowery Heads. The yellow Sort grows in most Grounds, but the white, which is the most pernicious, chiefly infests the lighter Lands, and is not near so common as the other. There has grown so much of the yellow Sort in many Fields of Oats, which have so out-shot the Corn, as to oblige the Owner to get their seedy Tops mowed off, to prevent an After Damage from their Seed, and to give the Sun room to nourish the Oats the better. Others have

have used the five. Foot long Weed-hook, and six Feet long Pea-hook to strike off their Heads, it being an endless Piece of Work to pull them with their Hands, where these Weeds are vastly thick. This Seed, which very nearly resembles the Turnep Sort, and is like it both in Leaf and Flower, is undoubtedly propagated with Turnep Seed, that it often grows amongst, and therefore Farmers should be truly nice in making Use of clean Seed, for a Turnep Crop. Curlock seldom grows among Wheat, but much among Barley, Oats, Pease, &c. where it does a great deal of harm, by its branching and choaking the Corn, and drawing a considerable Nourishment from the same Earth, that should be expended in forwarding the Growth of a large Crop: It mostly flourishes in Tilths and well dressed Grounds, but does not affect stiff and watery Soils: It is best killed, by making a Summer-Fallow of the Land, and by sowing the same, the next Summer after, with a Crop of Turneps.

Wild Poppey, by some called red Weed.— It chiefly grows in white and gravelly Grounds, but is often seen in Loams, and some other Earths. Its a very succulent Weed, that draws the Ground much, and robs it of those nutritious Salts which should fertilize the Roots of Corn: It runs up in large green Bunches, and therefore is best drawn by the Hand in this Month, for the Weed-hook is not proper here: Its Roots, Stalks and Leaves make an excellent Hay for tame Rabbits, as being both of a healthy and fatening Nature: Their Flowers or red Heads are also serviceable in making a salubrious Syrrup: Its mostly occasioned by too fine a Tilth, and when the Corn is sown in a dry Season, which makes heavy Plowing, and a moist Season its best Prevention. But a certain Farmer took a Method that I never knew any other do, and that was, because he thought it too tedious a Work

Work to pull it up by the Hand, he turned his Hogs into his Wheat the very Beginning of this Month, and they preferr'd the poppy Stalks to those of the Wheat.

The red and white Dock.— This Weed runs into the Ground like a Radish ; as to the Shape, Depth and Bigness, it has a bunchy tall Head, that contains a great deal of Seed, and does much Mischief, where they are suffered to encrease, which is easily done, not only by their Seed, but by letting any Bits of their Roots lie on the plowed Ground ; where, though they have lain some Months in a shrivelled Condition, yet if they are mixed with the Earth, they will grow again. Some say they are good for Nothing ; others, that they are very serviceable in Diet-Drinks for cutaneous Distempers. In this Month their large Leaves and Stalks afford a good Handle to pull them up by. Some will draw them from among their Corn, but then they sometimes do a great deal of Harm ; because the Roots of the Grain are apt to come up with them, therefore others will do this Work in the Fallow-Seasons, by following the Plough, and digging them up in the Thoroughts it makes : Others, when a Field is under Clover, or any of the artificial Grasses, will haul them out ; but whenever they are weeded by pulling, it must be done when the Ground is pretty wet and loose. About *Enfield*, they use a clever Instrument for this Purpose, having a wooden Handle, let into a Socket of Iron, with two Prongs of the same, fixed very near one another, and a small Foot-Iron, jetting out on one side their Top, which being forced into the Ground, very dexterously eradicates a Dock at once.

Fern and Rushes.— These are sometimes a Foot or two high in this Month, and hurt both Corn and Grass. To kill the Fern, one mowed it in *May*, and twice the same Summer afterwards ; another
whipt

whipt and beat it ; others, have plowed up a Grass Baulk, carried away its Surface, and plowed the same Ground again for Corn : But these Practices only check'd it. In a certain Park this Weed was killed by plowing the Ground several Times one Winter and Summer, till the Earth was got fine ; and then in *August*, the Owner sowed the same with Rye, which fed the Deer the next Year ; afterwards by plowing and sowing artificial Grasses, and roling the Ground at Times, he destroyed the Fern. But as Fern grows among Trees and other Places improper for using the Plough, there was a Role invented, of a very large Size, to kill the Fern, and it had the desired Effect : This Role was made with narrow Oaken Planks, two Inches and a Half thick, fastened by a wooden Pin, on three Wheels, that have only four Spokes to each Wheel. The Diameter of this hollow Role is five Feet ten Inches, and its Length above seven Feet, through the Middle of this an Iron Spindle or Axle-tree is fastened, to which the wooden Sharps are fixed to draw it by with two, three, five, eight, or ten Horses, according to the Weight you put into it ; for the Inside is made to hold Stones, Gravel or other such ponderous Bodies, to make the greater Pressure ; and though this Weed has been found to run more than eight Feet into the Earth, yet in two Years, the Role has killed it. It will also crush down Mole-banks, Ant-hills, and Casts of Worms, and level Grass-Ground the better for the Scythe. It has been observed not to grow any more the same Year, if it is mowed on *Midsummer* Day. The Rush that mostly infests wet Grounds, is check'd by sowing Coal-Ashes, Lime, Soot, and Peat-Ashes.

Wild Oat.— This Weed is notoriously known to be a most pernicious one, by Reason of the great Difficulty that attends its Extirpation, and like-
 wise

wife on Account of its easy Increase, for this will grow amongst most Corn, and scatter its Seed before the Grain is ripe, nor will it yield to any one Year's Plowing of the Ground, because of its several Skins and hardy Nature. On which Account it surpasses most others, as is plain from its growing, in Plenty, on breaking up Meadow Ground that has laid under Grass some Scores of Years; for many Seeds of Weeds will withstand the Culture of the Earth, and the Severity of the Weather, much longer than the Seeds of Corn or Grasses, insomuch that by the Toughness of their Coats, and their sulphureous Nature, they have been proved to lie unhurt in the Ground, more than the Age of Man; which I think is enough to confute the common Opinion, that some Ground naturally breeds Weeds, without their Seeds being before in the same. And why wild Oats grow most in Ground that is constantly sown with Corn, I think may be accounted for, by allowing that such Seeds, if but a few at first, will increase the more by often mixing them with the Plough, and giving the Earth no Opportunity for their Ruin. The best Remedy, I know of, in the common Husbandry, is after a Summer Fallow to plow the Ground several Times for a Crop of Turneps, or to have Turneps twice together: But above all others, the Plowings or Breakings between the Drills of Corn, Turneps, or artificial Grasses will certainly and intirely destroy the Breed of wild Oats in a little Time. Before I conclude this Article, I cannot but observe the Opinion of a certain Person, who believed that those Oats eaten by Horses, and dunged whole, produce a wild Oat, by Reason of the Damage they receive from the Body of the Beast: If this be true, it is not to be wondered at, if they grow in great Plenty, where such Dung is laid: In the Vale among their random sown Horse-

G

beans,

beans, the Sheep destroy the wild Oats that Year, by feeding among the Beans, even in Blossom-Time.

Crow or wild Garlick. This sometimes runs up as high as the Wheat, with Heads and Seeds somewhat like Onions, but not so large ; it chiefly grows among Wheat and Barley, and not so much among Oats and Pease, at least it is not so much minded in them, as in the other two. It is such an abominable stinking Weed, that when the Wheat is at Market, and this Seed perceived to be mixed but in a small Degree with it, the Buyer commonly calls it the *Devil* of a Weed. One of my Days-men told me, that he and another, as they were weeding of Corn, espied some of the Crow Garlick, which so much resembled young Onions, that his Partner said he would sit down and eat his Bread and Cheese with a few of them ; accordingly he cut about ten close to the Ground, but it was not long before they began to swell the Man, and forced him home, as fast as he could go, where happily his Wife gave him a Dose of Physic that she had by her, and saved her Husband. This Weed grows in many Grounds, but chiefly in the stony, clayey Soils, and is best killed by Winter Fallowings, frequent Plowings, and Turnep-Crops. The Seed of this Weed clogs the Stones of Mills, so that it is very hard to clear them of its Flour, 'till the next Summer dries it quite up.

Melilot. Is a Weed that grows among Wheat and Barley, but mostly in Pease, Oats, and Beans, and that both in Vale and *Chilturn* Lands, where it comes up much like Lucern Grass, about two Feet high with a yellow Flower, and a black Seed like Trefoil. If its Leaf or Seed is rubbed, it will stink the Hands for three or four Hours, and is so hateful to Horses, that they refuse the Oats it grows with. It is generally found in stony Clays
and

and wettish Grounds ; which if crows cropped, by too often Sowings, will increase this horrid Weed very much. Its Remedy is the same as for Crow Garlick. Both this and the Garlic are such offensive Vegetables, as oblige some Farmers to weed it out, to prevent its Damage by the Cow's Milk in Cheese and Butter, as I have before observed.

Gould. This is the commonest and most pernicious Weed of all others in sandy Lands. This Summer, 1738, being a wet one, the Gould got such a Head among Barley, especially, that there seemed to be as much Weed as Corn in some Fields. Many of their Sands, sandy Loams, light brick Earths, and such Soils are hardly ever without its Roots. It is one of those Weeds that cause a Despair of destroying it, where it has got but a tolerable Possession. I have observed its Growth, in vast Quantities of Ground, where its great high Bunches with golden Heads like a Marygold shew themselves, at a great Distance. There are four Sorts of it that infest Corn Fields, as the white, red, blue, and yellow, but the last is the common Weed. To check then this fatal Destroyer, some lay down the same Ground, with artificial Grass ; others get a Crop of Turneps, as often as they well can on it ; others sow Rye instead of Barley, for this over-tops it. But, to kill it quite, the best Way is to sow the Corn in Drills, and then plow and clean the Intervals, with that and the Break. About July 10, 1738, I saw the blue Sort with many round hard Stalks, three Feet high, among Barley, Oats, and Thatches, in a gravelly Loam.

Horse-Gould. Is a general destructive Weed, and mostly so in Wheat : It comes up in a fine Tilth, and flourishes most by a wet Season, attended with a cold Spring, for then the Weed is apt to get the better of the Corn, as being the more hardy

Plant : It will keep Company with the Wheat till the Harvest, and then is about half the Length of the Grain Stalks ; shedding a great Deal of its flat Burr-Seed in that Time, for this Weed grows so thick, that it is impossible to weed it with the Hand or Hook ; therefore some have attempted to eat it off with the Wheat, by their Sheep, and failed ; for when it is old, as commonly it is when the Time is for doing it, the Beast does not care to eat it, because it is then bitterish : But my next Neighbour turned his Sheep in full early, which eat up both Wheat and Weed ; the Consequence was, that the Earth being a Loam, and a wet, cold Time happening, while it was thus feeding, the Weed recovered, and spoiled most of the Crop of Wheat. This Yellow-headed Weed grows chiefly in stiff Lands and Gravels, both in the Vale and Chiltarn.

Wild Borrage or Cats-tail. There are two Sorts that bear this Appellation, the blue and green, but the blue is the commonest and worst. This shews itself but once in three Years, and then in the *Lent* Crop of Pease or Oats, mostly in Chalks, Gravels, or Sands, with a large Head, and downright Root ; for it does not affect Tith-Earths. Between *Hazlemere* and *Godalmin*, in *Surry*, I saw a large Field of Oats so over-run with this blue Weed, and the red Poppy, about the tenth of *June*, in a sandy Loam, that I could hardly see, at a small Distance, any other but these two fine coloured Weeds, which made a pretty Show to the Traveller, but a woeful one to the Farmer : In the old Husbandry, it is best destroyed by pulling up with the Hand in wet Weather, or by the Fin on the Share, or by following the Plough with Mattocks : It is called *Cats-tail* in *Hertfordshire* ; in *Surry*, wild Borrage.

Hogweed

Hogweed. This is the worst and commonest Weed that infests our *Chilturn* Fields, because it draws away much Nourishment from the Grain, and takes up a great Deal of Room both above and below the Surface, to the great Damage of all Crops of Corn that grow among it. It roots about two Feet down, and more upwards in Stalk ; its large Head is first green, then white, next yellow, and at last brown and ripe in Seed, which is a flat Sort, so much like that of the Garden Parsnip, that it is difficult to distinguish it by Sight. No Plowing nor Fallowing can destroy this, nor will it yield to sowing the Ground with Clover or other Grasses, or with Turnep Seed, and their common Houghing : Our Way is to weed it in this Month or next with the Hook, but this only checks it from feeding, and causes the Weeder to do a great deal of Harm with his Feet among the Corn. To destroy it, it should be dug up by several Men following the Plough with their Mattocks, for their Roots shew themselves very plain in the Furrow, and then their Pieces must be carried off the arable Land, lest they should grow, or be laid on the same for Sheep to feed on directly, which they will greedily do ; and not only Sheep, but Horses, Cows, Hogs, and Rabbits, are great Lovers both of their Roots and Stalks, and will fatten on them, if plentifully supplied, whilst they are green.

Cammock. There are two Sorts of this stinking Weed ; the one has a Honey-suckle Head, the other spires up with a Sort of grassy Leaf above a Foot high, and smells strongest : It branches and roots like a Honey-suckle, but much more, and is a great Spoiler of Corn : It grows in Patches, in Loams, Clays, Gravels, and in some Sort of white Grounds. Their Cure is chiefly by the Mattock, to dig up their Roots deep, and break the Ground well

well to come at them, carefully carrying away all their fibrous or stringy Parts off the plowed Ground: Their largest Roots are so strong, as sometimes to set six Horses.

Honey-Suckle. I mean the red Sort, which when old, like the Cammock, will try the Strength of a Team of Horses, to break their Roots; and therefore it should excite the Care of Farmers to prevent their Growth, by giving the Land frequent, deep, and clean Plowings: To this Purpose, the excellent Method of bouting stiff Lands, and bouting off the last Bouts, prevents the Breed and Increase of the Honey-suckle: And it is on this Account, that the two Horse small Farmer suffers much, because he is not strong enough to perform this Work, nor to prevent the Breed of this, and some other tenacious potent Weeds. The Honey-suckle is so much planted in some Fields, that it has tempted several to let it stand for an intire Crop of Grass to feed Cattle, or to mow for Seed, which in some swampy Grounds is serviceable; for though it is like Clover in Head and Root, yet it won't hove the Cows or Sheep as Clover; yet, if you let it lie three Years together, it is wrong, for then it will be apt to run its Roots too far into, and about the Ground, and so become a lasting Enemy: Its Cure is to chalk the Land, and to dig with the Mattock, or to give it deep and often Plowings, especially at Fallow-time in a dry Season.

The Thistle. Is said to be an Indication of good Land, but where-ever it happens to get Possession, it is no welcome Guest, for this does its Share of Damage among Corn, proportionable to its Root: It is most common in Vale rich Lands, and too often in our *Chilturn* Grounds, where in both, if it is let stand to Seed, the Winds will carry its light Flew to great Distances: This I know a great Farmer

Farmer so careful to prevent, that he makes his Men with a Mattock, or with the Iron-Thistle paddle every Year, to destroy them in the Lanes, near his Fields, lest its feathery Seed should blow into them and grow. Its Cure is often and deep plowings, chalking the Land, and sowing it with Clover; or better by a Man's following the Plough, and digging the Roots out of the Furrows. I knew a certain Man to be at eight Pounds Expence the first Year, five the next, and three the Year following, to paddle up Thistles in the same Meadow feeding Ground, and by this Means overcome them.

Ragweed. This is a tall bunchy Weed, that has many yellow Heads or Flowers, somewhat like the Gould; it chiefly infests Meadows, some whereof I have seen over-run with it in *August*, when it is in its full Perfection: This comes meerly by bad Husbandry, for it is easily pulled up by the Hand, after a great Shower of Rain, having a narrow Bunch of fibrous Roots, that grow near the Surface like a Crow's Foot.

Wild Teasels. These are tall Weeds that exhaust the Ground much, and grow mostly in neglected Grass Grounds: They grow but in few Places; but where they are, these, like the large Ant-hills, may serve as Beacons to the passing Traveller, to let them know there lives a bad Husbandman in the Neighbourhood.

Arsmart. This has a bunchy Root, which, when got old, runs deep into the Earth, and, having many Fibres, cannot then be destroyed by the Plough. I lately saw a moist, loamy, gravelly Field near *Bille-recay*, quite over-run with it; and though it did not grow very high, yet it caused a thin Crop of Grain to be carried to the Barn. Chalking the Ground, and plowing the Land clean, while it is young,

young, destroys it ; so likewise do Crops of Turneps and Cale.

Horse-Mint. This also annoys Crops of Corn that it grows among, and cannot be weeded, because of its innumerable Stalks, but may be easily killed by Chalking, clean Plowings, and by Crops of Turneps or Cale.

Wild Sorrel. This ugly Weed likewise very much damages the Grain it grows among, and for the aforesaid Reasons cannot be killed by weeding, but by sowing of Turneps or Cale, chalking the Ground, and plowing it often clean.

Colt's Foot, or dunny Leaves. This is a most pernicious Weed, and very hard to destroy, because its Roots are great Runners, and draw the Goodness out of the Ground, to the Damage of the Corn : In *March* it appears by its broad, yellow, round Flowers or Heads, which are succeeded by its broad Leaves, that grow near the Ground. Its Cure is to chalk, plow, and hough the Land, but best of all by the Break between Drills of Corn : Carry off its Roots, for its very Pieces will grow ; and plow with a Fin on the Share.

Couch or Twitch-Grass. This is caused by the Sourness of the Ground, and therefore most subject to grow in low, wet, clayey Lands : It cripples the Growth of Corn to a great Degree, and very expeditiously increases its Roots. Plowings only, in such Soils, will hardly do ; and therefore they use the great heavy Harrow, which alone is sometimes full Work enough for six or eight Horses to draw, and then it admirably tears up both Root and Branch of this horrid Grass-Weed, which totally to destroy, they lay it in Heaps to burn.

Wild Thetch, Tyne, or Bind-Weed. It is an ugly Companion among Corn, especially if the Spring-time is attended with Wets and Colds, for then it is natural for this Weed to get the Predominancy, which

which sufficiently appeared in 1732, in the moist Clays and Loams, where it grew up Creeper like from the Bottom to the Top of the Wheat Stalk, hauling and pulling down the same, till it spoiled the Ear, and thus it extended its Mischief to almost a whole Field of Wheat together. Its Remedy is deep Plowings, due Fallowings, and chalking the Ground; for according to my Observation, it comes most where these three are chiefly wanting.

Black Bennet. This is a Sort of Grass-Weed, that kills vast Quantities of Corn, or at least very much lessens their Crops. About the fourth of May, 1730, the black Bennet began to show itself a Foot long among Grain that was sowed in Tilth and Lay-grounds, having before that Time a long wet Season, attended with easterly Winds, when the latter sown Wheat fared best, because when the severe Weather was over, its Youth caused it to run faster than the forward sown, and to get the better of the Bennet. This Weed does most Damage among Wheat, in Clays, and moist Loams, occasioned chiefly by four, rough Tilths, and a wet cold Spring: Its Remedy is a fine Tilth, and a dry Season to sow the Corn, in a well manured Soil, that has been soundly chalked or limed.

Crow-Needle. This is a spreading Weed, which bears a small white Flower, and grows about half the Height of the Corn: Its Seed lies in the Bottom of Points like Needles, which are about an Inch and a half long, that oftentimes very much foul the Corn, by their being broke to Pieces, when they are thrashed with the Grain, and are difficult to get clean out: Its Remedy is sowing clean Seed in a pure Tilth.

Cliver. This twists about the Wheat like the Tyne-Weed, and does its Damage much like it: Its Seed, is a little round Burr, which requires some Labour to clear out of the Grain by the Screen

and the Throw ; both this, and the Crow-Needle Seed, will grow again if sown, though some say not : This is likewise best prevented by sowing clean Seed, and a good Tith.

Darnel. This is a rampant Weed, that mostly Hurts Wheat ; because in Barley, its Quality is to add Strength to the Beer, by making it more heady, which causes the Malster not to find much Fault with it, if not in too great a Quantity : But as the Colour of its Flour is brown, feels rough, and has some Scent with it ; the Mealmen don't like it among Wheat : This is a most multiplying Weed, for many of its high Stalks will carry twenty Side-shoots, and every one six Corns in it, so that twenty of its Heads are enough to spoil half an Acre of Wheat : It is of so hardy a Nature, that it is usually said, the Dunghill will carry it to the Field. A Farmer that rented sixty Pound a Year, said, he lost twenty Pound by it, in one Summer's Crop ; and in the Barn, it is almost impossible to separate it from the Wheat ; because, a great Deal of it is near as big as a Wheat-Kernel ; nor will it all swim on the Top of Brine or Water, as most other Seeds of Weeds will, for that the largest Seeds of this are as heavy as those of the Wheat : Its Cure, is by throwing it in a Barn, running it through the Wire-flat Screen, or better, in the new invented Round-wired Screen, that the Wheat may be sent clean to Market : Its Prevention is, by sowing clear Seed, which ought to be changed every Year, from a different Soil.

Chef-Seed Weed. This is a Sort of Darnel, but grows in a different Manner, hanging its small Stalks, which are about an Inch long from the great one, in several little Bunches.

Cockle. Is a little Seed with a black Hull, full of white Flour, for which Reason the Mealmen do not much dispute its being among Wheat, if not

in too great a Quantity ; but as little Seeds oftentimes do a great Deal of harm, clean Seed changed every Year prevents it.

May-Weed.— This is a stinking venomous Weed, which bears a white Flour, and is well known to most of our *Chilturn* Reapers, who sometimes have their Hands and Legs so blistered by it, that they are not capable of working till they get cured by the Application of House-leek Juice, mix'd with Cream, or some other Medicine : It very much cripples Grain, and grows chiefly in wet Loams, Clays and Gravels, by Means of four Tilths, and showery plowing Times, which make a dry sowing Season, and a sweet fine Tilth, its Cure.

Weeding Potatoes.— Now weed your Field-Potatoes by the Hand-hough, by this you will make them have large Roots, and keep the Ground in a Tilth for plowing once or twice, and sowing Wheat on the same in *October* following. A Foot Distance should be left between each Potatoe, and then they will have Room to encrease in Number, if the Ground was well managed, to great Profit. But of this new Improvement more in *February*.

Weeding Banks.— Our Banks which are set with quick Sets for making new Hedges, generally consist of Virgin Mould ; there is a Ditch-Bank, and a Flower-Bank without a Ditch, both which, if neglected, will soon be over-run with Weeds, and the Sets become stunted ; when it so happens, the old Way, is to use the Knife to dig up the many Roots of Grass and Weeds, which is very tedious and chargeable ; and therefore the new Method, that I use, is to take a Spade in this or last Month, and pare off the upper Crust of Grass, immediately after a Shower of Rain, and as near them between the young Shoots as possible, then turn it topsy-turvy, and lay it in the same Place, which not only kills the Weeds turn'd up, but also smoothers

the remaining Roots left behind ; and if there were any of the deep rooted Sort got into the Ground, then pulling them first up by the Hand when the Land is moist and loose, will destroy them: This Method ought annually to be practised during the Youth of the quick Sets, as being very serviceable to keep off the too powerful Heats of the Sun, and lodging the Rains ; but where the Spade cannot, the Knife must be used. In the Vale of *Aylesbury*, where Wood and Fences are scarce, they carefully observe this good Management, and spare no Pains nor Time in such a beneficial Branch of Farming ; for where-ever it is slighted, it is because they do not consider, that a good Hedge will pay its Owner, as much as if Corn grew every Year on the same Ground.

Digging and Weeding by the Mattock. This, and the following Month is the best Time in the whole Year to employ the Mattock, either after the Plough, in the Furrows in Fallow-Lands, or otherwise, for extirpating the Cammock, Honey-suckle, Hog-weed, Briars, Coltsfoot, or other Roots, for now they are firm and full of Sap, and by Consequence will bleed and run it out when wounded, which will greatly, if not quite destroy the Weeds ; but then be sure to carry off their Strings and Bits, lest they grow and become a second Increase.

Weeding Standard Trees.— Now carefully pull, pinch, or cut off the Shoots at the Bottoms or Sides of your Fruit or Timber-Trees, and neglect not doing it in this, or at farthest in next Month, for these check the Sap's Ascension, and cause both Fruit and Tree to pine, and sometimes kill the Tree out right. This Operation also being performed in Summer, very much hinders their second Growth for some Years. Moss also, after a Shower of Rain, should be scraped, or rubbed off with a Hair-Cloth : Pismire Banks likewise, which sometimes
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are on the Roots, or at the Bottom of the Body of the Tree, should be carefully dug up ; for these are often of bad Consequence, and tend to its Ruin : Their Destruction you will have in next Month, with many other curious Matters relating to Vermin and Insects.

Weeding-Beans. In this Month be sure to keep your Sheep in Fields of Horse-beans, to break and keep back the Hell-weed, which sometimes spoils many Hundred Acres of them in a Summer, by fastening its Thread on the Bean-Pods and Stalks, and keeping them from thriving, and thus will grow and run many Poles together, without any perceptible Root, which has made many say, it has none : But this is a Mistake, as it was proved at *Chedington* Farm, in *Bucks*, where the Tenant's Son for a Trial, threw its Threads, or Seeds on a little Spot of Grass-ground, and it presently came up very thick. The Sheep are certainly the best Weeders among this large stalked Corn, which is sown promiscuously, for they will clear it of all Sorts of Weeds, and yet seldom hurt the Beans ; for which Reason, some will let them go into them, even in blossom Time. In some dry hot Seasons, the Dolphin black Fly proves very destructive to both the Field and Garden-Beans, whether drilled or otherwise : But to prevent this Mischief, I shall here give you two fine Receipts.

To save Crops of Beans by destroying the Dolphin Fly. These Insects always begin to make their Lodgment on the Top of this Vegetable, and increase downwards till they kill all or most of the growing Beans ; therefore, when they have first got Possession, mow off the Heads of the Beans with a Scythe, and the Fly will never rise again, for they cannot get upwards. The next Way is to do it by Turkeys : A certain Farmer's Wife used to scold at her Servants for letting the Turkies go into a Field of Beans

Beans near her House ; but instead of Mischief, they did great Service ; for they proved excellent Weeders, by pecking off the Flies for their Food, and caused more Beans to grow on four Acres, than was in forty of her Neighbour's that Summer. — Now draw your Prong or Plate-break, by one or two Horses, between the Rows of drilled Beans ; the first is too loosen the Ground, and kill the Weeds, the other to cast the Mould up to their Sides : This most servicable Way caused such vast Crops both of the Horse and broad Beans in Fields this wet Summer, 1738, as made them grow to six or seven Feet high. As soon as ever the Blossom falls off from the Bottom of the broad Bean Stalk ; that is, as soon as the lowermost Kid appears, then cut or pinch off just the Head of the Stalk, for then as the Stalk kids upwards, this Method will stop its shooting in Length, make it corn better, and less liable to the Dolphin Fly ; but this Work is rather too tedious to be done among Horse-beans.

Weeding Pease.— Early in this Month, or as soon as the Weeds are long enough, with the Hand-hook of five Feet long, weed out the Thistle and others from among your Pease, before you begin upon any other Corn ; because otherwise they will draw and cover the Ground so as to cramp the Growth of the Pease ; for these are more tender and precarious in their thriving, than many other Sorts of Corn. If the Pease are drilled, draw your Horse-break between the Rows ; and if Occasion be, use the common Hand-hough afterwards, to lay the Mould closer to the Stalks. The very Beginning of this Month, you may sow Hotspur, or *Essex* Roothing Pease in Drills, in warm Soils, to come in *September*, or *October*.

The cheapest Way of weeding Hops, and their other Management in May.— In this Month those Vines which

which are grown two or three Feet long, and have not taken to the Poles of themselves, must be guided by the Hand to the nearest Pole, that has the fewest Vines, observing to couple the strongest Vine to the tallest Pole ; the Number is three weak, or too strong ones to each Pole, that are to be twisted at an equal Distance, and according to the Course of the Sun, when they are to be bound with Broom-shoots, wither'd Rushes, or woollen Yarn, but not close, least the Pressure should Damage them ; two or three Strings at proper Heights will do for one Pole, and so proceed on till the Plantation is finished ; when they have closely taken to the Pole, cut off all the other weak Vine Shoots close to the Ground : The next tying must be about four Feet and a Half high, and if the Vines do not keep close to the Pole, the standing Ladder must be employed to tie them higher up once more ; and though in wet Summers, the Vines sometimes out-run their Poles, yet they must be suffered, unless they hang down very much, and overload them, and then with a long Switch, you may strike off their Heads, which if done in Time, will encrease their Branching : What I here call tying, is done by twisting the Yarn, that it may give way as the Vine enlarges itself. Now carefully keep all Weeds, and the Seeds of Weeds from annoying your Hop-Ground : At a certain Place, they chiefly do it by the Back-hand-hough, and at another, they use the Prong-hand-hough with which one Man will clean Half an Acre of Ground in a Day, which before has been loosened. But there are two other late invented Machines that excellently clean the Ground of Weeds : One is called the Niget, or the one Wheel-hough-plough, which by the Help of two able Horses in Length, and two Men, one to hold, and the other to drive it, will greatly loosen the Earth, kill the Weeds, and

let in the Air and Rain ; but its nine little Houghs or Feet cause so hard a Draught for two Horses, that they are obliged to stop at every fifteen or twenty Feet for the Ploughman to draw it a little back, and raise it out of the Ground to begin again, and then it leaves a high Parcel of Earth in the Place, that must afterwards be spread by a Forkman : The other is the Sheim or Prong-Plough, drawn in a high two Wheel Carriage, guided by its two Handles, and held by a Ploughman ; who, with it and two stout Horses, can plough nine Acres in four Days (if the Earth was loosened before) for this is not to be lifted as the former is, out of the Ground, unless it be at Turnings, and yet will plow well, if the Land is a little stony, which the other will not. Others, will dig the Ground to clear it of Weeds with the Prong-Spade, which also, in stiff or gravelly Earths, performs well ; and in a loamy, sandy Earth, one Man with it will loosen Half an Acre a Day, and destroy all Weeds that were growing in the same. Take Care you do not touch the Hills with the Ploughs, least they tear the Roots of the Vines, for these are only to be managed by the Spade and the Hand-hough ; the latter to loosen the Ground, and kill the Weeds, and the former to supply the Hills with Parings of Mould, which are to be laid on at each weeding Time, after some Rain, to keep the Hills in a continual Moisture, and better nourish their Roots : Yet is this general Rule not without an Exception, for when the Vines appear vigorous, and full of Sap, give them no more of this Assistance, least it make them run too much into Stalk, and hinder their bearing Hops ; for as it is said, you may enrich the Roots, when you cannot check them. Mr. Godfrey, of *Town Malding*, told me, he made his Ground so rich, that for several Years he could not stop the Roots from causing too rank
a Vine

About *Canterbury* they give eighteen Shillings an Acre a little before *Christmas*, for digging the Hop-Alleys with the common flat Spade; in the Spring they give five Shillings an Acre for cutting and pruning the Roots of the Hops, which they trim very nicely; six Shillings an Acre for digging with the Hand-Prong-Hough, and four Shillings an Acre for weeding or ploughing all the Interspaces with the Sheim. I should have given the several Cuts of these Instruments, but the Price of my Book won't defray it. In this Month, or in the two following, some sow their Hop Grounds with Turneps, to keep the Ground clear of Weeds, by houghing these Plants, and enjoying an early Crop of them; but this Way has its Disadvantages, for, as they commonly draw them, it impoverishes the Ground, and robs the Hop-Plant, unless there be a sufficient Quantity of Manure allowed afterwards: Yet is this to be done according to the Nature of the Soil, for, if these are sown upon a sandy Loam, and eaten off by Sheep in Winter, their Dung and Stale will parch and damage the Hop-Roots, that the Hops commonly suffer the next Summer, and Pigeons Dung will intirely kill them:

them ; besides which, both in this Earth, and in stiff Grounds more, the Sheep, by their Weight and cloven Feet, tread down the Ground into a close Texture of Parts, and thereby make it more chargeable to get loose and light again, therefore they account it best to draw them ; however, for these Reasons, most Owners of Hop Grounds refuse to sow any Vegetable between the Rows, yet I must commend a great Improvement of this Nature, which I saw in a By-part about thirty Miles from *London*, in 1738, where the Owner had planted a Number of uncommon Roots, which every Year returned a considerable Profit, and did little or no Damage to the Hops ; this I intend to write of next Month.

Weeding Dwarf Roses. This belongs chiefly to the Hop Farmer or Planter, because it is a most profitable Vegetable when it grows in Hop-Alleys, which in a certain Country was exposed to my View, I mean the red Rose used by the Apothecaries. These must have a proper Soil to grow in, and be well weeded in this Month in particular, by the Knife and Hand-hough, after the Hough-Plough or Break has been as near as it could go. These Sort of Roses grow about two or three Feet high, and two or three Feet broad like a low Hedge. Their Manner of planting, in the Middle of Hop-Alleys, I intend to shew in a proper Month, and their Gathering I shall take Notice of in *June*.

Weeding the large black and white Poppey. Now weed your Poppies by the Hand-hough, whose Seed was sown promiscuously, that they may grow the larger, and be the sooner ripe for gathering about the Beginning of *August*. In *Surrey* a Man told me he made three Pounds of as many as grew on five or six Poles of Ground, and I lately saw them flourish in an Orchard to near five or six Feet in
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Heighth; they are commonly sold to the Apothecaries, and are a great Improvement, and I am of Opinion that they may be sown in Drills to a better Purpose. Their Culture I intend to publish in a proper Month.

Weeding Lucern. In this Month weed that Lucerne, whose Seeds were drilled in, in sandy or low marshy Grounds in *February* or *March*. I will suppose the Drills to be about twenty-four Inches asunder, and then the Horse-Break may in this Month be drawn through the Intervals, and after that the Hand-hough may be used: Or, if Lucern was sowed with an Intent to hough the Ground between the Master-Stalks, as Turneps are houghed, the common Hand-hough must be used; but then there must be two Houghings at least employed to do the Work clean. The common Way is to sow this Seed promiscuously as we do Clover.

Weeding several Vegetables. In this Month weed Saffron, Woad, Liquorice, Coriander-plants, Carraways, Teasels, Madder, Hemp, Flax, Weld, Gooseberry, and Currant Bushes, destroy Fern and Rushes, and weed Potatoe Grounds: Several of these may be made to grow better in Drills than in Broad-lands; but, as to Potatoes, there is a new Way of planting them to a very great Advantage, which I intend to publish in *February*.

CHAP. IV.

Of Manures and Dressings proper for this Month.

DUNG or Muck. In this Month employ what Dung you have left in your Yard, by carrying it on your Fallow-Ground, which has been once plowed in *April*; spread it well, and plow it in, the latter End of this Month in all stiff Soils: It is much better so, than to let it remain in a Clamp 'till Turnep, or Wheat Seed Time, because by then it would be much wasted by the Air, Rain, and Sun; but, if in such Earths it is mixed in due Time, it will ferment it, and make it short, sweet, and rich, for the Reception of Turnep, Cole, or Wheat Seed, and thereby be better prepared to admit their thready Roots into its innumerable Pores, and administer its fertilising Salts, to the forwarding a vigorous Growth of the Vegetable; and thus the Turnep, in particular, is pushed on so quick, as to make them out-run the Damage of the Fly, Slug, and Worm, as well as the Prejudice of hot and dry Weather, by which an early Crop will be brought on, and their Bulk greatly increased; when, at the same Time, your Neighbour, who has not made Use of this Improvement, may lose his Crop by several impending Accidents, or at best get only a Parcel of poor stunted Turneps.

But, in this Field Oeconomy, particular Regard ought to be had to the Nature of the Soil: For if it is a rashy Gravel, or a dry, hungry, unlucky Ground, that you are to sow Wheat in at *Michaelmas* or later, then you ought to forbear laying on your Dung till you are just going to plow and sow it; in this Case the Dung must be
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fully rotted, else the Harrows will tear it out again; if the Seed is sown in Broad-lands, and if your Ground is sown in Stitches, and the Dung be long, it will be apt to bury some of the Seed, make it lie in unequal Parts, and breed a Mould, which will prove destructive to the Grain: Thus the too common Mistake, and fatal Consequence of dunging such Land, is avoided, which, by too early dressing it, would give such a hawkly Soil an Opportunity of devouring the Dung, before the Growth of the Wheat is half over, and then you may expect a poor, starved Crop.

Mould and Lime. This Month being a leisure Time with some Farmers, get what Mould you can, and mix it with Dung and Lime; the latter will make the gray or rooty Mould run into small Parts, and so ferment them all, as to make them incorporate in a fine Manner, and become fit to be laid on Land, and plowed in, in the Month of *July*, for Turneps or Rye, or for Wheat afterwards. Or if Mud is so served, instead of Mould, it will answer to a good Purpose, and their Proportion should be three Parts Mould or Mud, and one Part Lime, or about ten Loads of Mould or Mud, to two Loads or ninety-six Bushels of Lime, to be laid length-ways, in a long, narrow Heap, broad at Bottom, and narrow at Top, somewhat like a Hog's Body, for the Rain to wash the better off it. This Composition makes a most excellent Manure for nourishing both Corn and Grasses; and therefore is very proper to be used on both Plowed and Meadow-Lands; and this advantageous Practice is now become so much in Esteem by the best of Farmers, that, in Order to come by this delicate Dressing, they often dig up their Mould, and carry it away for this Purpose, from the very Roots of their Hedge-Plants; and, to do this to the best Advantage, some will first lay a Quantity
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of Mould or Mud all along the Bottom, then a Layer of Lime and Dung, and Mould at Top ; others will lay some Mould first at Bottom, and then a long Row of Stone-Lime, and on both Sides of it, Mould and Dung mixed, which is all, some Time after, to be mixed with a Spade or Shovel, till it is incorporated into one fine Body, and then it will fertilise almost all Sorts of Land, as being an agreeable Manure, which will rather destroy than breed Weeds : But of Lime and these, more hereafter.

Vale-Men discommended in dunging their Land. As I have now writ on the Dunging, or Dressing *Chilturn* Lands, I shall here touch on that of Vale Grounds ; in which Respect I cannot help dispraising those, who after their Dung is once thrown up in their Yards, in a Clamp in the Spring Time, do no more to it than lay and spread it on their ridge Lands, the latter End of this, or in the Month of *June*, against the Wheat Season, as I have often known them do, where they let it thus lie on the Surface of the Ground, exposed to the Sun, Air, and Rain for a Month or two together, before they plow it in, till most of its Quintessence is exhausted : But, in Defence of this Practice, they alledge that, in this Time, the Rains wash its Goodness into the Earth, and they enjoy it this Way ; which I think a poor Excuse, for many Times no Rain falls in that Space of Time, and then their Plea is groundless : But allowing that there should some wet Seasons happen, yet the Interims of dry Weather must consequently rob the Dung of Part of its Vertue, while it thus lies above Ground : But of late they are become a little better Husbards, by rotting their Dung against *Michaelmas*.

Dunging Meadow Ground. Now be increasing your Dunghills, in Order to get them rotted and
fine

fine against the Time you get your Field clear'd of the first and second Crops of Grass: Some lay it on after the first, to increase the second; others not till *October*, when it is fed bare. This Sort of Dunghill requires to be turned often, mixed well, and rotted to the highest Perfection of Fineness; for, the smaller its Parts are, the better and sooner it mixes with the small Roots of the Grass, and thereby brings on an early Cover, and that an early Mowing, once if not twice in a Summer, and then great Burthens; as is annually proved by the *Edgware* and *Hendon* Men in particular, who certainly are the most curious Managers of a Dunghill in this Nation, and yet are at a considerable Charge all the Summer, to bring their *London* Lay-stall, Muck and Dung, and Coal-Ashes, three, seven, and ten Miles on the Wheels, which they most carefully mix with Highway Dirt, Mould, and sometimes Chalk, and incorporate them so, often, till they attain a most exquisite Fineness, against their spreading Seasons.

To alter red or other Clays, and reduce them to a Loam. ON the Clay-Land, that was last Month fallowed in Broad-lands, lay in Heaps, on one Acre, the Quantity of sixty or a hundred Bushels of Coal Ashes; the more the better, and spread them with a Shovel or Spade in a dewy Morning, to prevent their Flying too far; then plow them in as shallow as possible into Broad-lands again a-cross the last Way, or into four thoroughd Stitches, or by hacking the Ground. If the Ashes are plowed into Broad-lands shallow the first Time, you must go deeper with the Plough the second Time; and thus you will be in less Danger of burying them, by which the Clay and Ashes will the better mix, and be exposed to the Sun, Air, and Rain, for its Melioration; at *Michaelmas*, the same may be sown with Wheat in Stitches, as
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the best Way to cause a further Incorporation of these two contrary Bodies, and bring them into one: And, to add to this great Improvement, in *January* following, sow forty Bushels of slaked Lime over the same Acre, or twenty-five Bushels of *London* Soot; either of which will still forward the Reduction of the Clay's Body, shorten and overcome it better than Sand, which is of sharp Parts, and therefore the easier devoured by such a tough, tenacious Earth: And though Coal-Ashes are likewise endowed with sharp Particles, which are binding and drying, they are yet of a very shortening Nature, insomuch that, after they have been mixed by repeated Turnings of the Plough, and two or three Crops have been obtained, they will so divide and adhere to the moist, viscous Body of the Clay, as to reduce it to an intire loamy Earth; and the more so, if such dry Manures of short, rotten Horse-dung, Wood or Coal-Ashes, Lime and Lime-Ashes, Malt-Dust, Oil-Cake-Powder, and the like be often used in this Work. These, as well as the Scratchings of the Harrow-Tines, the Movements of the Plough, and the Intanglements of the fibrous Roots of the Corn, do all contribute to cement the Clay and Ashes together, so that, by these Revolutions, a barren Clay may be made a fruitful Loam, at a small Charge, and in a little Time. The Proof of this is obvious, from the great Quantities of Clay and Ashes that are mixed together in the adjacent Parts of *London*, which, after some Time lying, becomes a loamy Body, and of a Hasle Colour, for making Bricks and Tiles.

Alterations of Manures and Dressings. This is absolutely necessary in both Meadow and Arable Grounds; for in the first it has been proved, that, by sowing Ashes some Years together, they have lain at the Roots, violently drawed the Goodness
out

out of the Ground, and in Time so choaked the Plants, that they produced but very thin Crops of Hay. So Horse-dung, for the same Reason, may be annually applied, till the Ground will bear no Grass. Arable Land will also complain, if too frequently dressed with one Sort of Manure: As for Example, if Soot, or Lime, is used each on two or three Crops together, the Consequence will be thin Returns of Grain; a judicious Farmer therefore always takes Care to change his Dressing as often as he can; hence it is, that many are so curious to mix Earth, Lime, and Dung together, as best agreeing in the Dunghill, and on the Ground afterwards. Again, the Nature of Manures is to be considered for their alternate Application: Soot, Lime, and Ashes generally produce a short, thick Grass, Dung, or Fold, long Grass; for which Reasons, Dung, or Fold, should follow Soot, Ashes, or Lime, and so on; likewise where Grass, on Downs or other dry Bottoms, is naturally short, Cart-dung or the Fold should be made Use of, before the burning Sort. A Gentleman that keeps twelve hundred Sheep lays so great a Stress on this Piece of Husbandry, that he hopes by this Means to have Sheep worth sixteen or eighteen Shilling a Head, instead of a smaller Sort of eight or ten Shillings Value, which he used to have; and that by employing his Fold on such short Grass, and feeding his Sheep in the Winter with Pea or other Straw out of Racks; for either Hay or Straw, consumed in this Manner, warms the Roots of Grass, keeps off Chills, prevents the Growth of Moss, and, by the Worms drawing it into the Ground, becomes a Sort of under Dressing, besides the Improvement of the Dung, Stale, and Heat of the Sheep's woolly Bodies.

Marles. I am informed that in *Cheshire*, in this Month, or in *June* or *July*, they dig Marle to
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dress their Ground withal, which, being open Field-Land, lies in *Buts* of Grass (according to their Term) which perhaps has continued so, ten, twenty, or thirty Years : These they plow up for Corn, and dress with Marle; of which there are four several Sorts, *viz.* The Fustian, the Cowshit, the Black-steel, and the Shale : The Fustian Sort is an Earth composed of a fat Loam and Sand, of a reddish Colour, so soft and loose, that they spit it with a Spade, and lasts but four or five Years, though relieved with other Dressings in that Time : The Cowshit, which is the richest Sort, looks to be an Earth mingled with Lime, having many little white Specks in it, and will last seven Years with Assistance; this is all spitted or thrown out with the Spade : The Black-steel Marle is of so hard a Nature, that they dig it with Mattock and Spade, and will not all dissolve in seven Years, nor will all its Goodness be spent in twelve : The Shale-Marle is of all Colours, and of a stony Nature, which obliges them to peck and hew it, and then it comes like Bits of Stone; yet this will last but four or five Years, though helped with other Dressings : Of these they sometimes lay above five hundred Heaps on one Acre, and, after it is spread, they let it lie dissolving the remaining Part of the Summer; and the whole Winter, till they give it one Plowing, between *Christmas* and *Candlemas*, and afterwards harrow in Oats; the next Time they muck well, plow, and sow Barley; then for the next Crop they give the same Ground a Fallow, and dress with Lime and Dung, and sow Wheat, and Beans after that : Thus, when they have got about seven Crops, they lay it down for natural Grass, which of itself will be a Crop the very next Year; though some more prudently, of late, lay it down with artificial Grasses. In their inclosed Meadows, they

they do not use any Marle, because they find it to have such a binding Nature, as to hinder the Growth of Grass ; for which Reason they dress with Dung only ; nor will some Marles answer in arable Land, where the Soil is not agreeable. I heard of a certain Farmer, who was ruined by dressing a clayey Ground with a stiff reddish Marle, which, in a dry, hot Summer, burnt and dried up his Grain, and, in a cold, wet one, chilled and crippled his Crops ; and this he suffered the more, because he was poor and could not purchase alternate Dressings. In *Hampshire, Surrey, Kent, Essex, Suffolk, and Norfolk*, Marle is their chiefest Manure, and does a great Deal of Service, especially in their Grayels and Sands. About *Woodbridge* they make Use of a shelly Marle, which they there call *Cragg*, which about thirty Years ago was found out by mending a Cart-way with it, where, afterwards happening to sow Grain in the same Place, it proved a better Crop than ordinary, and ever since they dig it for a Manure : It is a reddish, shelly Earth, which, being laid on to the Quantity of twenty-five Cart-Loads on one Acre, dresses it for seven or twelve Years ; so that, at this Time, they have dug Pits of it in many Places, and carry it to great Distances, where it returns them prodigious Burthens of Grain in their hungry, sandy Grounds. In this Earth, Cockle and other Shells are commonly found mixed, which has caused some to imagine, that this Ground was formerly gained from the Sea ; and the rather, because the Salt-Water is at this Time not far from it ; as it is said of the most fertile *Romney-Marsh*, whose Bottom seemed to me to be of a shelly Earth, which has been gained from the Sea not many Years since, and produces such Grass, which exceeds all others in *Kent*, for fattening Cattle in a little Time without rotting them.

Soot. In the Year 1735, the Weather was dry almost throughout *May*, and Part of *April*, which set the Barley which was sown late in Gravels, Chalks, and Sands, to that Degree, that several Fields looked bald the latter End of this Month, especially where they dressed the Corn that grew on such Soils with Soot, which helped the more to dry away their Grain; whereas, had they soaked their Barley-Seed according to my Receipt, and then footed it betimes, this fatal Misfortune had been prevented; however, one of my Neighbours was so wise as to foot his Wheat in *January*, and tho' it was in a chalky Land, yet by the Help of the early Rains it was a most flourishing Crop. But neither Barley nor Wheat should be footed after the twenty-fifth Day of *April*, unless the Barley was very latter sown indeed; because the Wheat, and commonly the Barley, have then done gathering and branching, and got upon the Spindle. As soon as *French* Wheat or Weld is sown in this Month, Soot may be either sown over the same Ground, or better harrowed in with the Grain. It is likewise proper to be sown over young Turneps that have all just appeared. Or, in Case you have been necessitated to sow Barley the Beginning of this Month, Soot may be used to its Improvement, in the Manner it is done with the *French* Wheat or Weld.

Ashes. If Barley is sown so late as the Beginning of *May*, lean Peat-Ashes in particular may be applied over it, or harrowed in with the Grain; but Ashes burnt from fat black Peat, such as they dig by *Newbury*, are of such a sulphureous Nature, that they are afraid to lay them on their Barley; and they do not dress their Wheat with them till the Spring is advanced, and then they are sowed over it. The Account of this rich Manure take as follows, *viz.* The Earth is taken out of a black moorish

moorish Ground, by a wooden, narrow Scoop, which brings it out like a long narrow Brick; this they lay on the Ground to dry in the Summer Time, and then sell it for eight Shillings a Waggon Load as provisional Fuel for Families: But when it is to be used for a Manure, after it is dried, they burn it in Heaps of ten, twenty, or thirty Loads, laying on more Peat on the Outsides, as the Fire increases within, to keep it from having too much Vent; however, in Time there will appear a considerable Smoke; and it was on the twenty-third of this Month, 1737, that I saw about ten great Heaps, burning for this Purpose, near where it was dug. The great Use of these Ashes was found out about thirty Years ago; but in a little Time after were brought into Disreputation, by their imprudently laying on too many at a Time, which burnt up the Corn. Afterwards they found that six or ten Bushels were sufficient to be sown over an Acre of Wheat, Pease, Turneps, Clover, Rape-Seed, or *St. Foyne*, as early as they conveniently could. But, as I said before, they are afraid to sow it over Barley, lest a dry Time should ensue and burn it up; for these Ashes are reckoned to contain three Times as much Sulphur in them as in the Coal-Ashes; and this they reasonably imagine from their great brimstony Smell, sparkling and jumping, when they are stirred as they are burning, and drying up the Corn by their too great Heat. These Peat-Ashes, and likewise those from Wood or Coal, will help to keep off the Slug from Pease and other Grains, by the Salt and Sulphur contained in them, and very much conduce to their Preservation in cold wet Seasons. But there is no such Danger to be feared from the Ashes of that Peat, which grows as a Turf over sandy Bottoms, as great Quantities do on *Leigh-*

ton Heath in Bedfordshire, for these are as much too lean, as the other are too rank.

Penning Sheep, or Dressing by the Fold. Now Folding is in Perfection, by Reason of the Commons and Fields being firm of Grass, and which is apt to cause Distempers in Sheep, by being too full of Blood, occasioned by their greedy Feeding after a long penurious Winter; and this has made me often wonder at the ill Management of most Farmers, who seldom ever use any Medicine to prevent such Plethory or Overfulness of Blood, and the red Water, which Sheep are very subject to at this Time; though both may be easily prevented, if now and then, at Spring and Fall, they give them a few Doses of my Barrel Liquor, which I have prescribed in last Month; and is a Thing perfectly necessary for the Relief of this most useful Creature, who in Course is amassing foul Humours by the Dirt, Wet, and Cold of the severe Seasons, which impregnates the Grass with flashy, raw, earthy Qualities: Therefore also be sure to fold them late at Night, and unfold them late in the Morning, first stirring and driving them about the Pen briskly; for, by this, the Sun will have Time to exhale the destructive Vapours of the Earth, which in this Month, as they are plentifully converted into Dews, are apt to breed Cobwebs and Insects of a poisonous Nature, which often prove the Bane of Sheep: For which Reason carefully drive them first over the Place they are that Morning to feed on, in order to trample on and destroy those Cobwebs and Insects, and likewise to breathe the Sheep, and thus cause them to evacuate their ill Humours through the Pores of their spongy Skins, which will be a great Means to prevent the red Water. This Dressing by the Fold is, undoubtedly, the best and most universal of all others; because it agrees both with *Vale and Chilturn*
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Lands, and may be had when others can't; but it is to be observed that it does more good on some Sort of Ground, than on others: Loams, Gravels, Chalks, Sands, and other light, dry Earths, receive the greatest Benefit from their unctuous Dung, Urine, warm Bodies and Treads; but, on flat, wet Loams, and cold Clays, it does not answer quite so well. Folding is excellent on Ground preparatory for Sowing Wheat, Barley, Turneps, &c. and also after Sowing, not only by their treading in the Seed for its better Nourishment, and keeping the Stalks afterwards from falling down, but likewise to preserve it from the devouring Birds, Slugs, and Worms. But, in this Management, due Care ought to be taken to keep the Sheep off that which has been folded on, lest the new sprouting Blade be bitten off: This is so material a Point, that some object against this beneficial Proceeding, on this very Account; but, where a good Shepherd and a well broke Dog have the Superintendency of this Affair, there is the less Danger of such Damage. The Fold has been found to be so profitable as to tempt some to fold their Hogs, whose Dung, Urine, and Feet are very agreeable both to fallow Ground, and on new-sown Corn, if done in dry Times, and the Beasts are well ringed at their Nose: For this Purpose their Hurdles must be all close and strong made, that they may confine this strong, roving Creature, which has been found so difficult a Matter to do, as to discourage some from carrying on this serviceable Way; however, in Gravels and such hard Grounds where they cannot much stolch, it may very well be worth while to be at the Charge of iron Socket-Stakes, which may be drove so deep into the Earth, as to defy their Strength, and Cunning to get out.

The Manure of natural Earth. This certainly is the most genial Dressing of all others, to all Sorts of Roots whatever: It not only procures the largest and sweetest Kitchen Plants, but also brings forward very safely the greatest Crops of Corn, and artificial Grasses, as well as the most healthy and expeditious Growth of Trees. Nothing fertilises any Plant better than Virgin Mould, of whose Nature all Earths have their Share, that have had the Benefits of due Fallowings, by the Plough, or were made fine by the Hough and Break; and then it most effectually supplies Dung, as appears partly in the old, but more especially and fully in the new Husbandry; and to enjoy it in this Condition, as soon as possible, it has racked the Wits of many, to find out the cheapest Methods: In the old Husbandry, the quickest Way in the Fallowing Seasons, in *Chilturn*, loamy Soils, is to plow the last Stubble into Broad-lands, in *April* or *May* at furthest; the next Time, to bout across; the third Time to bout off the last Bouts, and then thorough down, harrow plain, and plow and sow Wheat; this Operation so pulverises the Ground, as to create in it an infinite Number of new Pores, at each successive Plowing, that are by this Means made smaller and smaller; and the lesser these imperceptible Holes are, the more soft and spongy is the Earth's Body, and, by this, the better fitted for the larger Reception of the nutritious Dews; therefore, the oftener, deeper, and longer, such loamy and clayey Soils are plowed, the greater Quantity of nitrous Dew it receives and lodges: Hence it is, that I know a certain Farmer, who rents about a hundred Acres of good inclosed Land in *Hertsfordshire*, and dungs but once in six Years, yet has commonly the best Crops of Wheat in the Parish; by Reason he every Summer takes this Method to get his Land into an expeditious

dition, exquisite, fine Tilth, which, indeed, is much better Husbandry than to dung a coarse Land oftener, which at Sowing-time lies in a rough Tilth. But, as I have before observed, there is an Exception belongs to this Management: For tho' hurlucky Chalks, hungry Sands, rashy Gravels, and lean light Loams are, by frequent Tossings and Tumblings about by the Plough, brought into a closer Body, as Clays and stiff Lands are brought into a lighter, and thereby both the better fitted for receiving and lodging the silky, capillary Roots of Seeds; yet such light Soils will not bear so many repeated Plowings as the stiffer Sorts; because the better Part of these generally consists in a thin Surface, whose mouldy Particles may be too much washed downwards by long and frequent Rains into their hollow, hungry Bottoms, to the great Impoverishment of such Lands: It is on this Account, therefore, that we endeavour to plow these as little as we can, so we do but get them into a fine Tilth; and, for a further Advantage, we take Care to sow the Chalks and Sands in moist Seasons, for their closer Inveloping the Seed, which thus very much secures these loose Earths from the Power of Frosts, Winds, and Wash of Rains, and also for more effectually preventing the easy Growth of Poppy, and other Weeds, and to save the Wheat, Oats, or Barley from falling down. Of this some Farmers are so careful, that, as soon as Wheat is sown in Chalks in four-thoroughed Ridges, they draw a Roll once length-ways over their Tops, to fasten the Ground. However, both light and stiff Soils must be made fine, else the Roots will have the greater Difficulty to penetrate, and be obliged to draw their Nourishment at the further Distance, to their considerable Damage.

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But by houghing Plants, Corn, Grasses, young Hedges, or young Trees, with the Three-wheel, or Pulley-Ploughs, or with Breaks or Houghs, their Roots are kept moist in a constant, fine, loose Mould; for, by this Sort of Management, Roots require less Water than those that grow from Seed sown broad-cast, because such Houghings capacitate the hollow Earth to receive the Dews in a plentiful Manner, and mostly so in the hottest, driest Seasons, whereby the sulphureous and saline Qualities, contained in Dews, nourish the finer Roots to a great Degree: Hence it is, that, the harder the Ground, the less it receives of this noble Sustenance; which is so rich, that no Dung can equalise it, when due Quantities are obtained and rightly applied to Roots of Plants by the Horse-Instruments; which are far more serviceable in these Respects than any of the Hand-Tools, because those can never go so deep, nor turn up the Mould in such a profitable Manner, as the others; Nevertheless, the Hand-hough must not be excluded its Service in these Works; for when the Plough or Break cannot come near enough to the Corn, Grass, young Hedges, and Trees, or when that Part of the Mould is clotty next to them, then the Hand-hough is to be used, to lay the Earth fine and close, and in a right Position, for the due Nourishment of their Stalks and Roots.

Lime. You that have not been so good Husbands as to mix your Dung, Mould, and Lime together before now, do it the Beginning of this Month against Wheat-Season (for at this Time it is rather too late to do it for Turneps) by this you will bring all the Compost into a Fermentation, which, by the Help of the Dung and Lime, will burn up all the Seeds of Weeds, and the small Roots that may be contained in the Mould; all twitch or couch Grass and all four Juices are by this destroyed,

destroyed, and the Whole made to run into a fine Body. If you are to mix Lime with only Pond, River, or Ditch Mud, then put one Load, or five or six Quarters of Lime, to ten large Loads of Mud; observe also, that this must be once turned at least before you lay it on for Wheat, that all may be duly incorporated and made fine. There are some Farmers who use Lime in a Dunghill, thus: First they lay a Bottom of Horse, Cow, Ass, or Hog Dung, of two Feet thick, upon which they spread a Covering of Earth two Feet thick likewise; on this they lay what Lime they think fit, then dung their Earth, and then Lime as before, and so on, till they have their Quantity, and at last cover with Turf or Mould, to keep the Sun from drying it too much, letting such a Heap lie rather broad, than high, that they may the better ferment together; and this they never fail to turn once, at least. Lime is so great a Shortener of Mould, that, if it is thrown but thinly on Plowed Land, in Ridges especially, in *September*, *October*, or other Winter Months, it will wash into, and fine it, with the Help of Frosts. Lime alone is used for *French* Wheat, as well as common Wheat, and is also excellent for Meadow-Ground, Turneps, Pease, &c. as being a cool, sweet, rich Dressing, and helps the Corn to kern, hollows the Ground, sweetens the Bite of Grass, and in many Places is made to supply Dungs and other Dressings; but more of this in proper Months.

Chalking Land. This excellent Earth deserves a Character above many others, for its being a pure Virgin Earth, of a sweet Nature, and of drying short Parts: Its Services are too many to be enumerated here, and therefore I intend, in a proper Month, to publish the Methods used by us in getting it out of the Ground, and the Application of it afterwards.

C H A P. V.

Of Artificial Grasses, for the Month of May.

CLOVER. Whether this is properly a Grass, or Grain, as some have observed, it matters not to the Farmer, who has more Business with experimental Knowledge, than the speculative Part of Botany; therefore we shall not here go beyond our Last, and quarrel with what is out of our Sphere; but let it suffice that, of a foreign Grass, it is now become a most useful, natural one, in *Great-Britain* and *Ireland*, where it has been of prodigious Service these many Years past, in supplying those Farmers with Grass, who having before no Meadow-Land, and could not so much as milk one Cow for their Families, may now carry on a Dairy both of Butter and Cheese, &c. by Means of this and other artificial Grasses, which grow in Plowed-grounds. And as the Profit of a plentiful Crop depends in a great Measure on the Goodness of the Seed, I shall here give you some useful Hints, which may help you in making a right Choice of the true Sort.

How to know good from bad Clover-Seed. The purple Sort of this is that which had its due Maturation in the Field, and an Escape from the Heat and Burning of a damp Mow; and is therefore the right true Seed, which ought always to be coveted, and sown by those who hope for successful Returns from sowing it: This is, truly, that Part which is best of all the three Sorts, and is the Medium of the two Extreams. The white or green Sort is the unripe Part, and missed of that Benefit in the Field, which the Purple had; for in the Ear or Head of this Grass, as well as in Wheat and other Grains, this Seed has its several

several Aspects and Proportions of Bigness, before it is cut down, and will shew their Differences accordingly after Thrashing and Cleaning : Where then this white or green Sort is in a large Quantity, it is to be rejected ; for, though such Seed may take Root and grow, it will prove diminutive Grass, and be sooner overcome by the Frosts and Wets, or Droughts, Worms, &c. than the fine purple Sort. The reddish Sort is the worst of all ; though this might be as good as the best, when it was brought out of the Field, but was afterwards too much heated or burned in the Mow, which occasions its reddish Colour, and destroys in a great Measure the vegetative Part of the Seed. From whence I conclude, that, where Clover Seed abounds most with the large purple Sort, it is then so much the more valuable : But, for a further Proof of the Goodness of this Seed, heat a Shovel half red-hot, and put some Seed into it, the good will snap, and the bad will burn away. Kiln-dried Clover-Seed may be discovered by its igneous Smell.

The Manner of its first Growth. It commonly comes up in a Week's Time, if the Weather is favourable, and then it appears with two Leaves and its Seed on its Head ; these all rot away in about three Weeks Time, and then the Spear, which shot from the Middle between the two first Leaves, opens itself into three new Leaves, which stand all good. Old Seed is longer taking Root, and its Leaves bitterer than those from new Seed.

To sow Clover-Seed with Success. If it is sown on rough clotty Ground, never harrow it in with Iron-Tines, because this Seed, being very small, will easily be buried in such an uneven Surface, and never come to Perfection, at least great Part of it will in Course be lost : The best Way therefore in such a Case is to draw white or black Thorn-Bushes

Bushes pretty thick through the Sloats of a Gate or Hurdle, and, if there be Occasion, let the same be loaded with a heavy Piece of Wood ; then let a Horse draw it length-ways, and across several Times over such Ground, as soon as the Seed is sown. But, if your Land is in a fine Tilth, then you may be free with your Harrow-Tines, and harrow it in once in a Place, for in such loose Earth there is no great Danger of burying the Seed too deep ; yet there is a fatal Accident sometimes attends even this Management ; and that is, when heavy Rains presently succeed the Sowing of Clover in such fine Mould, the Surface is apt to become what we call *Capped*, or, to be more plain, made to run and wash one Part over the other, and so cake and bind the same, that the Clover Sprout can't make its Way through its crusty Top : In this Case also, the Bush-Gate or Hurdle is perfectly necessary to be drawn over such Ground, in order to loosen it, and make Way for the seedling Heads to get an easy Passage into the Air. But observe, that this Work must be done before the Leaves appear, else it may prove of very ill Consequence : Observe likewise, that, if such heavy Rains come later than five Days, the Ground will not cap or bind.

A second safe Way to sow Clover to a great Improvement. Before or about *Christmas* at farthest, lay your rotten Dung on your Wheat or Barley Stubbles in the *Chilturn* Fields, and give them a clean Plowing, either in Broad-lands, or four-thoroughed Stitches, which will thus envelope the Dressing, and by the Help of the Winter Weather, help to rot and mix it with the Earth against Sowing-Time ; then, about the middle of *February*, plow it again, and, after it has lain a Month, first harrow it plain, then plow it across, and harrow in your Oats and Clover-Seed. But observe, that I suppose

pose the Soil, to be thus managed is a stiff Ground, either Clay or Loam, otherwise there is no Occasion for three Times plowing it, to get it into a sweet Tilth ; for a Gravel, Chalk, or Sand, must not have above two Plowings at most, because these will often do better with one Plowing, than a stiff Earth with two : However, this ought to be received as a general Rule, That all Ground must be made first very fine and sweet, if you expect Success in sowing any Manner of Grass-Seeds. And here it may be asked, Why Oats should be preferable to any other Grain for this Purpose ? In Answer to which, the Reasons I think are obvious, as they are a hardy Grain, afford a good Shade, and better able to withstand the Suction of the Clover-Roots ; and if the Oats, in a wet Summer, should chance to suffer by them, the Loss will not be so great as in Wheat, or Barley ; and, for this Purpose, I chuse the black Oat before the large, white, *Poland* Sort, by Reason the latter is such a vast Peeler or Robber of the Ground, that, when the Crop is got off, the Land is left impoverished, and the Clover sometimes so crippled and stunted, as to yield no more than half a Burthen. It is on this Account that I am for having such Ground well dunged before-hand, not only to hollow it for the better Reception of the Seed, but to nourish the Clover the Year following, as well as to make it produce a very good Crop of Oats : With such Assistance, the Clover will enjoy several Benefits ; as getting an early Head in the Spring-Time to shade its Roots against a dry Summer ; and, if the second Crop is sowed for Seed, it will be larger-bodied, and sooner fit to mow. I am very sensible that the white Oat is chiefly recommended by the learned Mr. *Worlidge*, for this Purpose, as giving a greater Shelter, by its broad Leaves, to the Clover than other Oats ; but if you sow (as you ought

ought to do in all stiff Soils) four Bushels of black Oats on one Acre with the Clover Seed, you need fear no Misfortune from that Quarter: I have experienced both Ways, and therefore think I have a Right to know the Difference beyond this Author, who I never understood was a Farmer, or concerned further in the Occupation of Land, than that of a Garden; yet, to do him Justice, I must own, his Essays on Vegetation, &c. have been very serviceable to the World. At this Time, I am feeding my Horses in a Field of Clover, which I obtained after the following Manner.

A third Way. It was on a stiff Soil, that I had a Crop of Wheat grew, and in *November* I plowed up its Stubble, letting it lie till the latter End of *February*, when I plowed the same Ground again, and sowed it with about two Thirds Horse-beans, and one Horn-grey Pease, and twelve Pounds of Clover on an Acre, and it proved a good Crop. Here I observed that Clover does more good than Harm to this Grain, as it helps to shade its Roots against Droughts, and thereby furthers its Growth; nor can the Roots of the Clover damage those of the Pease or Beans, by drawing out the Goodness of the Earth from them, because the latter, being much larger, have certainly the greater Suction from the Earth; yet both contribute to nourish each other, the Beans and Pease by shading the Clover, and the Clover them, and thereby making a Lodgment of the Dews, and retaining them afterwards, to their great Improvement.

A fourth Way. About *Watford*, where they pay twenty Shillings *per* Acre a Year for their Plowed-Land, they have such a Regard to the Improvement of this noble Grass, that, after the Barley is carried off, which the Clover was sowed amongst, they get large Quantities of *London* Coal-Ashes,

Ashes, and lay them in a few large Heaps in several Parts of a great Field in *September*; then in *October* they turn in those Sheep, which a little before were put into their Stubble-fields to fatten, and by this Opportunity they continue feeding them 'till their Turneps are ready, which compleats them for the Butcher; then, about *Christmas*, they sow their Ashes on the Clover, which gives it those Benefits I have before-mentioned.

The pernicious Effects of sowing Clover too early amongst Wheat. This Seed for many Years has been customarily sown amongst Wheat about *Christmas*, or in some of the following Months till *April*, by sowing it broad-cast, and doing nothing else to it: Some again will draw a Bushed-hurdle over it, instead of the Harrows: Others will roll it in: However, all these Ways are to answer one Purpose: But what I have here to alledge against this early Sowing of it is, that it often spoils or hurts the Wheat-Crop, by the great Suction it makes in Tilths and well dressed Grounds, in which this capital Grain is commonly sown; especially if a wet Summer succeeds, for then it radicates itself with great Expedition, and grows more than ordinary luxuriant.

A certain great Farmer near me, who was praising the fine Appearance his Crop of Wheat made in *April*, to an old judicious Neighbour, was told by the latter, shaking his Head, that he believed he would be of another Mind before Harvest: The other asked him Why? Because, *says he*, the Clover you have just sown amongst it, in the Winter, will very likely cripple it by that Time, and disappoint your Hopes: And accordingly it fell out so to his great Disadvantage: And this will appear no Wonder, if a Person does but reflect a little, and consult his own Reason upon the Matter, for it is plain to the Farmer, that the Roots of the Wheat, composed of small Fibres, as it

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were in a Bunch, get their Living very near the Surface of the Earth, which the Clover must also do in its first Summer's Growth; and though its Seed is about one twentieth Part smaller than a Grain of Wheat, yet its Root is twenty Times bigger the second Year, than that of Wheat, which in my humble Opinion plainly accounts for the Damage. As therefore I have cautioned my Reader, in last Month, against the Mischief Clover does, if sown too soon among Barley, I here likewise do the same in Relation to Wheat: To prevent which, if you have not sown it in *March* or *April*, the very Beginning of this Month, sow fourteen Pounds of Clover-Seed on one Acre; and thus you are not in so much Danger of suffering by Frosts as before, nor, it is to be hoped, by great Rains, which are apt to kill the Clover as it is chipping and making its Way out of the Hull or Shell. The Winds and Sun are also now less capable of hurting it, by the high Growth the Wheat is at in this Month, which thereby keeps the Ground moist, and hollows it ready for the Reception of this small Seed. It likewise intitles the Farmer to this Benefit, that whereas, there being now not three Months to Harvest, the Clover has not Time to be any Ways destructive to the Wheat. These are experienced Cases, which were never before published: On the Contrary, a certain late Writer, on Husbandry, peremptorily affirms several Matters concerning this very useful Vegetable, which are intirely erroneous; I shall here mention but two, and they are as follow:

A printed Error relating to Clover. The aforesaid Author affirms, that a Field of Clover will hold good five or six Years: Now, how wrong this is, every Farmer must be sensible of, who has had but small Experience in this Matter. I think I may presume to say, I am allowed by my Neighbours,
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to have as good Fortune in Crops of this Grass, as any about me, having at this Time five Fields under Growth of it; and yet I could never find that Clover ever paid above two Years, whether mowed or fed.

A second Error. He likewise asserts, that, after Clover has been done with, the Ground will bear Crops of Wheat for two or three Years together, and after that a Crop of Oats, without any Manure. This is fine Ground indeed, such as I never met with in all my Travels; and yet I have several good loamy Fields, that would let for twenty Shillings an Acre a Year, for the Plough; but could never find that it would produce me a plentiful Crop of Wheat or Barley, even the first Year, without the Assistance of the Fold, Dung, Soot, or some other Manure. However, there must be Allowance given for writing on Agriculture in a London Chamber; because all the Philosophy, that it can furnish, will never come up to the Information of Field Experiments.

The new Method of making Clover Hay. The latter End of this Month, or the Beginning of June, Clover is fit for Mowing, and known by its being full knotted and red-headed; and it is then you should begin this Work, for there is a Crisis of Time to be observed in this, as well as for natural Grasses. If you mow it too soon, it will shrink and lose in Quantity; and, if it stands too long, you will be deprived of its best Quality, the Sap; and then consequently it will be very coarse, and want much of its due Value. My Way of making it is thus: After it has lain a Day or two in the Swarths as it was mown, the next Time I remove its first Situation, by turning the Swarths, and letting it lie so another Day; then I put it in Grass Cocks in Rows, that the Ground between them may be regularly raked; then I afterwards

turn them with the Fork topsy-turvy twice a Day, till the Hay is intirely made. By this Method you will have it in its due Perfection of Colour and Sweetness with the Leaves on ; but you must not expect this latter Benefit, if you make this Hay after the common Way of throwing and spreading it several Times, as is done in making the natural Sort ; because then it would be deprived of its leafy and second best principal Part. In the next Place, when you inn it, and it should happen to be wet Weather, or that you mistrust a Dampness in it, put a Tub, Basket, or hollow Square made of four narrow Boards four or six Feet long nailed together, and placed in the Middle of the Cock, or Stack of Hay abroad, or in the Mow in the Barn, pulling it up higher as the Cock, Stack, or Mow fills in ; and thus you will not only prevent its Firing, but keep it sweet ; and indeed it is a good Way to use this Method always, let the Hay be ever so dry, because it gives an Evacuation to all Moisture, and tends very much to the Preservation of its green Colour. If you intend the second Crop for Seed, do not feed it after the first Mowing.

The Nature of Trefoil, and making it into Hay. This yellow-flowered Grass, if the Spring is not very backward, we commonly mow in this Month, or the Beginning of next, either when it grows alone, or with Clover and Ray-grass : If in the latter Way and it is fed, it prevents the Clover from hoving the Cattle : If for Hay, it tends very much to the Improvement of the other two, for this will twist and wind about the Clover, and help to keep its Leaves on, when it is made into Hay ; so likewise is the Clover no less serviceable in its Place, for, if you thrash the Trefoil and Ray-grass with the Clover for Seed in the Field or Barn, the first two will presently yield their Seed.

Seed, when the latter will retain it, and thereby, with its brown Honey-suckle Head, so improve their Stalks, as to make them the better Hay or Clover. Observe also that whether you mow Trefoil for Seed or Hay, it is best made in Grass Cocks, as I have before directed for Clover; because its Seed (which it most easily parts with) is better preserved; and it is for this Reason Trefoil should never be fully ripe, when it is mown; and, when it is mowed alone, this Grass does not require so much Making as other Grasses. It is a very fattening Hay for all Sorts of Cattle, and so is its Grass; and in particular very serviceable to Cows and Ewes in producing a great Deal of sweet, yellowish Milk and Butter; for which good Qualities it is by some called *Noneseuch*: But after *Midsummer*, or the first Crop is off, it grows very slow, and makes but a small Return, and is apt, when grown old, to make the Butter bitterish. This Trefoil has likewise a singular Quality different from all others, for, if you mow it, and plow the same Ground several Times, and sow it with Corn, it very rarely happens, that you miss of having a thicker Crop the Summer following, than when you first sowed the Trefoil Seed; but, if you plow only once before you sow the Grain, it is a great Chance if you don't intirely destroy it. Folding Sheep after the Ground is plowed will likewise prevent the Regrowth of the Trefoil, as well as only one Plowing: And, if this is not served, it is very apt to spoil the succeeding Crop of Wheat by its luxuriant Growth, especially where there is a good Tilth made, and the Ground well dunged. And here I must praise out *Hertfordshire* Farmer for his discreet Sowing of this Seed in its black Hull, as well as discommend the common Method of sowing it naked; for Experience shews that the outward Coat or Hull secures it very much

much against the Rigour of Frosts, Wets, Winds, and Slugs, inasmuch as it will withstand a whole Winter's and Summer's Revolution of Weather under several Plowings, and yet remain unhurt. In the common Way, Trefoil-grass lasts but two Years, hollows Ground much, and will shoot two or three Times in a wet Summer ; but, in a dry one, little more than one full Crop. It will grow on a rough Tith, and not hurt the Oats which it is sowed amongst ; because the Ground, not being manured for this Grain, prevents the Trefoil from doing the Mischief.

The Nature of St. Foyne, and making it into Hay. This red-headed serviceable Grass is rarely fit to mow for Hay in this Month, but in *June* at farthest, and in *June* or *July* for Seed : If for Hay, the next Day we turn two Swarths Head to Head, and rake between the Rows ; the Day following we put it into little Grass-cocks, and turn them twice a Day till made enough. Others again, in making this Hay, follow the same Method as they do in making natural Hay. But if this, or Trefoil, or Ray-grass, is much tost or tumbled about, when it is mowed for Seed, it will be very subject to shed and lose a considerable Deal. This *St. Foyne* Hay is so nourishing, that draught Horses may work under it alone, and will also keep them in good Case without any other Feed. It is always a sure Crop, even in the driest Seasons ; and, when natural Grass is burnt up, this will be a vast Burthen and yield sometimes three Loads on an Acre, which we commonly sell for twenty-five Shillings a Load out of the Field. Now when it happens that *St. Foyne*, Clover, Trefoil, Ray-grass, or Lucern is got in dampish, some, besides the Use of the Tub or long Square that I have before-mentioned, will put Straw between the Layers of Hay as it is mowing in the Barn, or
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in a Cock or Stack abroad, or, instead of that, Chaff, in order to absorb the Humidity, and prevent its Firing; but then there is an Inconveniency attending it, because, if the Hay is to be sold, such Stuff will be apt to hinder its Value; however, of the two Evils, Chaff does the least Harm, on Account of its small Body, which makes it the fitter to eat with the Hay. When the red Head appears, mow this Grass, while the full Sap is in it, for, if it stands, till it is full ripe, the Sap and Heart will be spent.

Lucern, its Nature and Hay. This Grass, which of late has employed the Pen of certain Authors in its Praise, seems now to decline in its Reputation; because not only myself, but many others have tried to get full Crops of it in our Clays, stiff Loams and Gravels, but without Success. Yet a Gentleman near me sowed a whole Field of it that had a loamy Surface, of about eighteen Inches Staple, under which was a red Clay; in this it grew, and in the third Year he mowed it three Times in one Summer, but could never do so before or afterwards, though he dressed it three Years together directly after Sowing: The first Year was with Dung, next with Lime, and the last with Ashes; but after the third Year it declined so much, that in about five Years the natural Grass got up and spoiled most of it. Besides, at best, it makes but a coarse Hay, which we cure in the Field, in the same Manner Clover-Hay is done; nor is it much less free from the fatal hoving Quality, than Clover is, for, if you turn Cows or Sheep into a Field of either of these Grasses, they are liable to be killed by it: And by the Observations I have made of it, I think it will not prosper in any Ground that has a stiff or hard Bottom; but in loose Sands, and in hollow moorish Earths, where its long piky Roots can make a deep
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and easy Penetration, it will do well, according to the Proofs I have known made of it in a sandy Soil in *Norfolk*, and in a moorish Ground elsewhere: Which latter Case I intend to publish in a proper Month.

Of Artificial Grasses in general, and their Hay. That *St. Foyne* and Clover which was sown together the first Year among Barley or other Corn, in order to have a full Crop of both the Year following, the latter End of *May* is to be mowed and made together. This is a late Improvement, and we find that each Grass assists the other in their Growth by the Shade of their Roots, till the Clover is worn out, and the *St. Foyne* then grows intirely alone. But when Clover, Trefoil, and Ray-grass are sown together (as they often are) they then make the better Hay, and will last good two Years, if in the last you manure it with Ashes, Lime, or rotten Dung; for in three Years the Trefoil and Ray-grass will get the Ascendant of the Clover, and cause but little of it to appear. Clover also is a Grass which suffers very much by the Bite of Sheep, because they cut its succulent Stalks so close with their narrow Mouths, that, in this and the other Summer Months, they make them bleed or run out their Sap too plentifully, and so damage both the first and second Crop of it. In this Month you must determine whether you will save your second Crop of Clover for Seed; for then, as I said before, it must not be fed. Some, by thus saving the Seed, have got a considerable Profit by it; but I knew a Farmer, that, after he had saved one Crop of Seed, would never do so again, alledging these Reasons for it, that, after once or twice Feeding, the Horses would eat no more of its Stover, but would sooner starve than feed on its hollow husky Stalks; likewise the great Charge of thrashing it (for he had not the Conveniency
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of Milling it) proved another Discouragement; so that he judged no Way so advantageous as feeding it, or making it into Hay, for then it sometimes yields three Loads off an Acre, as I experienced in one of my Fields in the Summer 1735, at twice mowing it; and, whenever you make Hay of Clover, it requires your Patience that you may not hurry it in too soon, before it is made enough; for this Grass, rather more than others, is very subject to a great Sweat in the Mow, when innd in the best Manner, by Reason of the large Quantity of Sap contained in its succulent Stalks. My next Neighbour was from *Monday* to *Saturday* making a Field of Clover-Hay, and then inning it, for Fear of its taking more Wet than it had; the Hay heated to that Degree, as made him throw ten Loads away for Dung: Whereas, had he waited till the *Monday* following, he had saved all by the Clemency of the Weather; however, he said he would trust Providence better next Time, for it is far more preferable to spoil it in the Field than in the Barn. N. B. Clover may be sown in this Month with blue Pease, or any other of the forward Sorts, because they do not continue on the Ground long enough to choak the Clover; but it will not do right, with *Windsor*-Grey, Horn-Grey, Maple, or the *Poplar*-pea, or any other of the latter Sorts, because they are apt to choak the Clover, or the Clover them. And remember, that one Year's Clover sours Ground, two sweeten it, Clover hollows Ground, but Ray-grass fastens, and sours stiff Land.

The Excellency of the Lady Finger-Grass. This is a true natural Sort, that grows in my Upland-Meadows, on a loamy Surface, of about twelve Inches deep, under which is a red Clay of ten Feet Depth, and under that a Chalk, and is justly esteemed the best of Grass. Its Blossom is a yellow Flower, and blows in this or next Month, much like that of a Furz or Whin, comes up with three

Leaves with Trefoil, carries three Branches on each Stalk, grows about eighteen Inches high, and, when ripe, is loaded with many small Kidds, with certain Numbers of little Seeds near as big as a Till, and therefore is both Hay and Corn; and, being the sweetest of Grass, the Cattle eat it very greedily, which makes it, in the highest Perfection, the most proper Hay for feeding Saddle-Horses, Deer, Sheep, and Rabbits, in the Winter Seasons, because they'll not only eat it with Pleasure, but it warms, dries, strengthens, and fats them sooner than all others. Wherefore, I recommend this particular Vegetable to the Notice and Enquiry of the Virtuoso's of the Age; and, where Ability accompanies an improving Genius, this hitherto neglected Grass may be obtained, by having its Seed gathered in next Month, clear of all other Seeds, and sowed intire in moist or dry Loams or Gravels, and even in moorish Grounds; and, if it take well, there is no Doubt, but that it will, in a ten-fold Manner, compensate the extraordinary Charge that must attend its Gathering, by Reason the Tread of the Collectors will consequently damage, if not spoil the rest of the Grass-Crop. It is here I propose the Improvement of a true *British* Grass, and not a Foreign Sort, and humbly take Leave to be so far an Advocate for its Improvement, as to say there has been no Exotic Grass-Seed ever yet imported, that is near so fine and serviceable as this native delicate Sort. I have lately tried Spurry-Seed, which some Seedsmen would fain impose on the Public for a Grass exceeding all others, and so in my Opinion it does (what I have experienced of it) for its worthless Nature. But here I publish one that has been approved of Time out of Mind by our Farmers, &c. who one and all allow its superior Goodness in answering those great Ends I here write of, and yet I can justly further enlarge on its transcendent

dent Properties, by telling you it is most serviceable for keeping Sheep from Rotting in wet seasons, and for inviting young Deer, Lambs, and other nice tender Beasts, to eat it greedily in frosty and snowy Weather, to the Saving of many of their Lives. Hence, then, may be supposed the great Benefits that consequently may be enjoyed by sowing this hardy luscious Grass-Seed in Parks, and other Places, instead of the harsh Ray-Grass, which I have known done in several such Inclosures, and which, indeed, affords an early good Seed in the Spring-time; but, after the first Head is eat off, or when Midsummer is past, it grows harsh and stubbed, so that then no Cattle care to eat it; and, the older it is in Growth, the coarser and worse it proves. Whereas this Lady Finger-Grass holds good all Summer, and Winter likewise, if it happen to be a mild one. I have heard of a Gentleman, that sowed intire Plantain-feed in a distant County from me, but what the Result was, I know not; however, I have Reason to believe, it did not answer his Purpose, because it can't be made to grow in so close a Manner, as to enjoy a great Bulk of it in a little Compass of Ground, on Account of its spreading Bottom-Leaves, that clear all Grass and Weeds about its single Stalk, for two or three Inches round. But, how much it is worth while to sow its Seed for its medicinal Qualities, I leave to the more learned Naturalist; yet I could wish I had less of it in some of my Ground, that abounds in a plentiful Degree with this Lady Finger-grass, which I annually sell to one particular Gentleman for feeding his Deer. If therefore any Person thinks fit to propagate this profitable Grass-Seed, they are welcome first to come and see it grow in this or next Month, and have it gathered and rubbed out for transporting it to any Part, or, on due Notice and Encouragement, they may have it sent them. But,

for the Account of making natural Hay, and many other curious Matters relating to the same that were never yet published by any Author, I refer you to my next Month of *June*, where I treat of them in a very ample Manner.

How a Crop of Clover may be had the same Year.
If a Person is in Necessity to have a Crop of Clover the same Summer, he possibly may have a plentiful one to mow by the Beginning of *June*, if he sows his Seed on a fine tilled Earth, that is in good Heart in the Months of *February* or *March*; provided he sows all over the same, as soon as the Seed is in the Ground, eight Bushels of *Newbury* or *Hempstead* Peat-Ashes on one Acre, and there happen to fall sufficient Rains afterwards in due Time: Or if, instead of the Ashes, he sows fifteen Bushels of Soot, and have the Benefit of seasonable Showers, he need not fear Clover enough the same Summer.

C H A P. VI.

Of Bulls, Cows, and Calves.

TO prevent Cows Hoving in Clover, and to cure them. This is the most dangerous Month in the whole Year to hove Cows in Clover and Lucern, because of their first Going into these Grasses, when they are in their greatest Vigour of Youth. I make no more to do, than to fill an Egg-shell full of Tar, and force it down the Throat of each of my Cows, just before I turn them the first Time into Clover, and it never failed my Expectation: Because the Tar, being of a hot, glutinous Nature, will lie some Time in their Bodies, and prove an Antidote against the Wind of a Belliful of Clover; and when this Grass has passed through their Bodies a few Times, the Danger, in a great Measure, is over for that Year, provided the Cows be constantly kept on this Grass. A poor Man's Cow, which he had brought up from a Calf, to eat Nettles in this Month 1741, eat so many in the High-way, that she was hoved and ready to fall; but, by giving her Half a Pint of Gin, in as much Gun-powder as would lie on a Half-Crown out of a Horn, she was presently cured.

The *Essex*-men are allowed to be the nicest and best Calf-sucklers of all others, and that with a great deal of Reason, for, even in the Choice of a Bull, some of them are so curious, that they sometimes will ride about fifty Miles an End to buy one, to their Mind, and accordingly travel into *Huntingdonshire*, and other Places, to obtain the right Sort at Fairs there: For on this Choice depends the having of white Veal, and then the Seller may expect, at a brisk Market, five Shillings in twenty more than for one of the redder Sort of Flesh,
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which always meet with a low Market. The Marks then of such a Bull are as follows :

The Marks of a Bull to get white Calf's Flesh. Chuse one that is thin of Flesh before, pale, yellowish, or dun-coloured, Finch-backed, white-bellied, brown-muzzled, his Head longish, his Eyes yellow or whitish, full, ready to start out of his Head, with pale-coloured Eye-lids, and Ears so within-side, one or two Years old, and not too large. But a black Bull, with a brown List along his Back, likewise a deep red Bull are commonly reckoned bad for Breeding by, and more if they have black Eyes. About *London* they formerly bought a Bull at two Years old for about fifty Shillings, and, after using him one Year, they fatted and sold him for five or six Pounds; or, if at three Years old, he be gelt and made a Bull-Stag, he will be fatted in a Year, and sell for six or seven, if he is a large one. On *May-Day* I bought a two Year old Bull at *Windslow* Fair for a curious Gentleman, and, after the Bull had served his Cows all the Summer, he killed him fat out of his Ground in *Aylisbury-Vale* at *Michaelmas* following; for though some may keep him till he is more than three Years, yet it is rare, for, when a Bull comes to be four, he is heavy and sluggish, and then some geld him for Feeding and Fattening him; or, if he is drawn a Year or two after it, and then fatted, they will make the better Beef, hardly to be distinguished from that of an Ox. The old Verse says,

*He, that will have his Farm full,
Must keep an old Cock and a young Bull.*

Of this I shall be more particular in my next Month.

How particular Soils contribute to make Calf's Flesh white. On *Gaddefden-Hill*, which contains many
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flat Fields, whose Surfaces are a good Hasle Loam about eighteen Inches deep, as I said before, we seldom have a white-fleshed Calf; yet about four Miles Distance, and also a Mile and a half from me, in *Buckinghamshire*, on their whitish, on their gravelly, and on their marly blackish Loams they seldom fail of having them of a right Colour. Likewise, about seven Miles another Way in *Bedfordshire*, on their reddish sandy Grounds, they generally turn out with a reddish Flesh.

The Marks of a good Cow. On this depends a great deal of Judgment, and is so necessary to be known, that, without such Skill, a Man goes to Market with a great Chance of laying out his Money very ill; for, if he is not very acute, I am sure most of the Sellers are, and to look through the Eye, and speak by the Tongue of another, is a Risque that many would avoid, but cannot, by Reason of their Ignorance; therefore take the following Hints: Buy one that is Taper-headed, thin-necked, well shouldered, short-legged, red-coloured, if of the large Sort; but, if of the small Sort, then the black *Welch* or *Scotch* Cow is best (according to my Account in *June*;) let her be thin-skinned, yellow, and thin-horned, her Bag linge, round, and thin-leathered, well chambered before, and her Teats not too large. Feel if her Milk-vein is large, if it is, she commonly gives a great deal of Milk; a good Cow goes with Calf nine Months, and may go to Bull again in the tenth. A deep-bodied Cow is reckoned not so good a Milker as the more rounder-bodied, because much of the Meat is expended in nourishing such a deep large Body.

Marks to chuse a suckling Calf by, and its first Management. Those who carry on this Suckling Business to Advantage, besides the Calves of their own Fatting, must buy others to supply their Room
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when sold off. Now the greatest Market for this Purpose, within forty Miles of *London*, is *Leighton-Buzzard* in *Bedfordshire*, that lies seven from *Gad-desden*, which furnishes such Choice of these Creatures, that many of them are carried from thence into *Essex*, to fatten them for the *London* Butcher. And there is a considerable Advantage depending on buying those who are most likely to thrive fast, and die white: Take Care that it be of a pale red Colour, well shanked, and well loined, with a brown or mealy Muzzle, and a whitish Gum; his Barbs, which are like so many Prickles within-side the Jaw-Skin of each Side its Mouth, must be very white and short, his Eyes hable-coloured, with a whitish Circle about them, and a small Rat-tail. But refuse a black-eyed one, with black Hairs about it, that has a black Muzzle, a red Gum, long coarse barbed, with a narrow Loin, small-boned, and a thin lank Body, all which are reckoned as so many bad Signs, that he will not prove a kind one. The Heifer's Calf generally makes the whitest Veal, and, if fat, is preferred by the Butcher at seven or eight Weeks old, but is commonly of the smallest Sort. Some will chuse large Calves to suckle, when others more judiciously refuse them, because they require a great deal of Milk, which if you have not Plenty of, they will run into Bone, rather than Flesh. The Bull Calves, for the most Part, are larger than the Cow Calves, but the Cow Sort frequently die whiter than the Bull Sort. In the Vale Grounds, where they calve Cows in the Fields, they commonly let the Calf go with the Cow a Week or two, before they sell it, and by this it becomes fitter for driving along the Road, than one that is kept in the House, which requires a great deal of Trouble to make it travel ten or twelve Miles a Day as the Drovers commonly do others. Therefore examine the Navel-String;
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and, if it is green and tender, the Calf is lately fell; for this will not drop off till it is nine Days old, or more. Give the Calf (if it is very young) one Teat the first Week, two the next, and all the third or fourth Week; and then, if your Milk is short, and you are obliged to cram, let it be once a Day, and only with two Crams at a Time, increasing to three or four at a Time, twice a Day; so likewise mix but a little of the Anniseed-water at first, and augment the Quantity, as the Calf grows older. The Crams are generally given an Hour before Suckling. If you are to chuse a Calf to wean, do not let it be a Heifer's, for it will make but a little Cow; but such a Calf will wrinkle one or two Years later in the Horn, than one from an older Cow.

To make Calves Flesh white by Art, &c. To bleed Calves often (as is too commonly done) is wrong; because it takes them off their Food, makes their Flesh eat dry, and not so sweet as otherwise it would be. Some Men seldom bleed above twice, once about six Weeks old, and at about a Month's End afterwards. Bleeding, indeed, clears the Fat, and adds something to its Colour, but not to the Flesh; yet, to improve this in *Essex*, I observed, they have very compact Cow and Calf-houses: For the first, they make them stand Tail to Tail, with an Inter-space of about four Feet, for the Men to pass and repass, and, at their Heads, they have square Pieces of Timber erected, with a Place to fasten their Heads in, by a Catch of Wood, that slips in at Top. On one Side of each Standing for three or four Cows, there is a square Place for three or more loose Calves to lie on Wheat-straw, laid on Boards, which have several Holes in them, to discharge their Urine into a large hollow Place underneath them. In this same square Place is a Rack, with large Chalk-stones for them to lick and eat at Pleasure. Here also is a Trough set before the Calves, with

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Barley.

Barley-meat, mixed with a little Salt, for their Improvement. Others mix powdered Chalk, Wheat-flour, and Oatmeal. Others give white Oats, or yellow slit Pease. But, if Milk happen to be scarce, to make it go the further, Cramming was invented, and may be managed with a great deal of Success, if rightly ordered. To do which, mix fine Wheat-flour, powdered Chalk, Milk, and the best Anniseed-water, which is far better than Gin, or common Spirits. Others will mix *Scotch* Oatmeal, sifted fine, with Milk only, and give it in small Balls four at a Time, dipped in Milk, an Hour before Suckling. Some, again, will give these an Hour after Suckling, with a few Spoonfuls of Milk after each Cram or Ball. And about *Beau-Brickhill* in *Bedfordshire*, which produces Fullers-earth, of late they have found, that this Earth, given in a Rack to sucking Calves, nourishes and whitens their Flesh more than Chalk. In *Hertfordshire*, it is the general Opinion, that, if Hay is given them in a Rack, it will cause the Calves Flesh to be red; yet I heard an old experienced *Essex*-man aver the contrary, alledging, that they may as well eat this, as the Wheat-straw they lie on. But it is certain, that, if the Cows feed on Grains, Tills, or Thetches, their Flesh will look red: Or, if the Calf is permitted to lick the Ground, Wall, or Boards about him, it will have the same Effect. The *Essex*-men never cram till three or four Weeks old, and seldom that but in Winter, when Milk is scarce; some of whom are so nice to make a Calf look white, that they bleed him in the last Week twice: But if his Barbs, Teeth, Gums, and Eyes appear white enough, they bleed him only once in that Time, and that is commonly the Day before they have the Calf to *Smithfield*-market. But, with these Artifices to save Milk and fatten (for it is the Opinion of many, that it makes the Flesh worse, than if all Milk is given)

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the Calves must be sure to lie dry, as I have observed, or on a Foundation of Faggots, and then duly supplied, twice a Day, with Wheat-straw, else they will be lousy and suffer. Others pretend, that it is best keeping Calves between two little Cocks of Straw in Winter, to make them sweat, believing this Way forwards their Fattening; but this is not the Opinion of many. In mine, it rather retards their Thriving, by weakening them; however, this should be observed, that, where a Number of these Calves are suckled, there should be two, if not three Calf-houses, that the Eldest and Youngest may have their proper Opportunities of enjoying their Share of Milk, in Proportion to their Age and Bigness. Before I conclude this Article, I shall add the following Receipt for making Crams:—Take the Flour of pale Malt and Chalk in fine Powder, of each equal Parts; mix both (with a very little Salt, or without it) Wheat-flour and Brandy, or Gin, or Anniseed-water, into the Consistence of Paste, or Dough; of which give three Crams, dipped in Milk, an Hour before each Suckling in Winter. But, in Summer, the spirituous Liquor is rather too hot for them, unless it be used in a very small Quantity; which makes some therefore use only pale Malt sifted, Wheat-flour, and Milk, for making Crams; and, by accustoming the Calf to this Food, he will voluntarily take the Cram off the End of a Stick. In *Hampshire*, a Farmer let his suckling Calves lie Abroad under Cover, and made the fattest Calves of any, as believing Sweating hindered their Fattening, and that artificial Food likewise prevented their Fattening on the Kidnies. Another Farmer, when he has his Calves to *Smithfield*, makes up a Dough with Claret and Wheat-flour; and, if there be Occasion, he gives three or four Crams, or more to the Calf, to keep it from sinking, and hinder it from scouring. And the Butcher, to make it die

the whiter, commonly fasts it a Night before he kills it, for Reasons I shall shew in my next Month, where I shall treat on this Subject in a Manner that never was done before, by exposing many new and profitable Secrets relating to Calves.

Of Weaning Calves. In this or the proceeding Month, I buy my suckling Calves at *Leighton*, for five or six Shillings a-piece, about a Week old, to wean; for, the younger the better, because they will take the Finger the freer: However, at first they must be suckled a little, and by Degrees used to a flat Tub, or Bowl, wherein some Milk, has been put, and the Head of the Calf forced to it with a Finger in its Mouth; and, when it has been used a Day or two to it, nail a Bit of Leather in the Middle of the Tub, to stand upright, in Imitation of a Dug; which in a little Time it will take and nibble, and suck itself. Then, in a Week or two after, you may mix Water with the Milk, letting it have good Grazing all the while; and in about six Weeks, or two Months, it will be weaned, and live altogether on Grass, with little or no Water, unless it be a very hot dry Summer, and short Grass. In the Winter following, it will be good Husbandry to let it have Hay in hard Weather; because good Keeping the first Year is the Way to have them a Year forwarder, than those kept on Straw: So a Calf, weaned in *April*, will wrinkle on the Horn, a Year sooner than one weaned late in Summer, and take Bull a Year sooner. But, in Case you wean a Calf to keep for a Bull, take especial Care that none of the People learn him to be vicious; which too many of the younger Sort are very apt to do, by daring him with their Hats, and teasing him with several Postures, which teaches him old Tricks in his Youth, that they are apt too soon to acquire by their own savage Nature; therefore, in Case you breed him, part with him at three Years old, or four at the furthest. Or, if you buy one

in, let it be at one, or two Years old at most, for Fear the like Catastrophe should happen, which befel a poor Man, whose Name was *William Nore*, of *Ivinghoe* in *Bucks*, who, being engaged as a Month's-man to a Farmer, in the Parish of *Whitchurch*, in the same Country, was sent one Morning to mow Haum, or Stubble; but, it being very foggy Weather, he could not see a Herd-bull, till he was just at him, when he immediately attacked the Man very furiously, and the Man him, till he fought him so long, as to bend his Scythe; at which Time, an accidental Person, coming by, made to the Man's Assistance; but the Bull, leaving the first, pursued the other Man, till, by outrunning him, he got safe into the Village, and raised the People, who when they came to the poor Man, he declared that, to the best of his Knowledge, he had fought the Bull two Hours; but, being miserably bruised by him, expired in a little Time after, and was buried at *Ivinghoe*, the Twenty-first of *September*, 1735, for which, as I was informed, the Parish was fined. And, about the same Time, there was another Person gored to Death by a Bull, at *Stamford* in *Lincolnshire*; and a third, mentioned in my next Month, with two particular Cases relating to the same. But to return to my Subject: Do not house the Calf the first Winter, only keep it in an open Place, just to secure its Body from the Wet, and go in and out at Pleasure; where, if to Hay you add now and then some Beans and Oats, or both, or other dry Meat, they won't be lost, as may be proved by feeding one all the Winter with Straw, and then it will be a great Chance, if it is not lousy, scabby, and stunted, as I have seen done. And if you perceive the Calf to suck, or eat, with Difficulty, search the Mouth; and if there be any Blisters, cut them with Scissars, and then rub the Part with Bay-salt and Juice of Garlic mixed. The public Road, from *Leighton* to
London,

London, joins some of my Fields, by which Drovers of Cows and Calves pass every *Tuesday* for *Smithfield*; and once it happened, that a suckling Calf strayed into my Ground, and lived a Fortnight together, in the Summer-time, on Grass alone, without any Water, till the Owner claimed it; and I have weaned several, that have done well all the hot Season without Water.

The Welch Way of fattening and weaning Calves. They wean the Calf at a Week old, in order to enjoy as much Butter and Cheese, as they possibly can; and to make the most of the Calf, either to fatten for the Butcher, or to wean it. As soon, therefore, as it is taken from the Cow, they stir into a Parcel of skimmed Milk two or three Handfuls of Bean-flour, or, for Change, Oatmeal; which, by the Help of a Finger in the Calf's Mouth, it will greedily suck and drink it in; by which it will receive extraordinary Nourishment, and thrive apace: And thus they save the common Expence of suckling them with the Cow. But to be more particular: When they first wean it, they suckle it with the Finger four or five Times a Day, and lessen by Degrees, till it comes to twice a Day, and the Calf drinks of its own Accord; and this they do for six Weeks, or two Months: Then they sell it for Veal, or turn it to Grass, giving it now and then a little skimmed Milk, or Whey, to drink.

Another Way. The Calf lies on a Stage built high for the Urine to run off; and each Calf is fastened to a Post by a Collar and Swivel, allowing them only a small Length of Cord or Chain. Here they fat them, by putting a little Wad of Hay into Milk as big as one's Thumb; which the Calf will suck himself, else it must be put into his Mouth; and by this Means he will fat for the Butcher: Likewise, at two Months End, he is turned out to Grass for altogether. My next Neighbour weaned two Calves
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at a Time, at a Week old each, and at three Weeks End he turned them both out to Grass. One had skimmed Milk allowed it every Day, and thrived apace ; the other at the same Time refused it, and fed altogether on Grass, but became very lean ; but, when the former came to be kept only on Grass, he lost Flesh, as much as the other then gained it ; however, they both made good Cows.

To know if a Calf will die white, if only felt in the Dark. On each Side the upper Part of the Tail or Rump in a fat Calf, there are always two Knobs or Bunches of Fat, which the Butcher commonly calls *Duds*. These you are to feel, and, if they are hard, it will die red ; but, if tender, it dies white. A Bull-calf is seldom so fat behind as a Cow-calf. A Calf's Fat lies chiefly at the Bottom of his Shoulder, at the Udder, and at the Duds ; and accordingly the Butcher feels these Parts, to know how fat it is. The thinner the Calf is on the Back and Shoulder, the more fat it has within Side.

Grazing Cows. The very Beginning of this Month, from *Gaddefden*, and many other Places in the *Chilturn* Country, are sent away old Cows, and also Guefs-Cows (which latter are those that did not stand to their Bulling last Year) into the fertile Vale of *Aylesbury*, to fatten in grazing Grounds there at one Shilling or Fifteen-pence a Week, for twenty Weeks ; for here their Turf is so extraordinary rich and sweet, that, if the Grass is ever so short, the Beast seldom misses of getting Fat, so they have Water enough. In this Month both natural and artificial Grasses are in Perfection for feeding Cows ; and therefore, if they were not high enough in *April*, warily turn them into it now ; and remember, that, if it is Clover, the younger it is, the more dangerous it will prove, because it is then most full of Sap and Wind : But, whether it be natural or artificial Grass, always let it be fed in small Parcels, for Change of
Pasture

Pasture makes fat Calves, and then the Cattle are prevented from spoiling a great deal with their Trampling, enjoy it fresher, and it causes them to give the more Milk, observing it as a constant Rule, to shut up the Field before it is fed bare, that there may be some Shelter left for the Roots, against the scorching Heats; and that the Stalks may be less exposed to Bleeding; or, in plainer Terms, to too great a Loss of their Sap. Observe also, that in *Aylesbury*, and other Vales, it is too common a Practice to crowd a Number of Sheep in the same Ground, with the Cows that are sent there to fatten. In this Case, the Owner of such Cows ought to be as wary as the Grazier is covetous, and refuse such a Place, because a Sheep stains Ground the most of any Creature of its Bigness, and is therefore the most disagreeable to the Cow, who hates to feed, wherever it dungs, stales, or leaves its oily Scent by lying on the Ground. Likewise in this Month, we *Chilturn* Farmers, who live near this Vale, whenever we have a good Cow, that at this Time of the Year is gone about half her Time with Calf, and our Keeping is short, we commonly let her out for a small Parcel of Money to a poor Man, who maintains her on his Right of Common, for the Sake of her Milk, till *Michaelmas* following, when she is returned, and becomes a Winter Milch-Beast, that generally is full as profitable as the Summer one, where there is Plenty of Meat. In the next Place, I should give an Account of the Profit of Milch-Cows; but, for Want of Room in this and next Month, I must defer it till *July*.

How two Cows died by ill Management after Calving. In my last Month, I told you, that, if a Handful of Salt was strewed on each Side of a Calf, as soon as it could be done after Calving, the Cow, by licking it, would soon glean: And now I proceed to inform you, that it has often caused her so

to do in two or three Hours Time, if she is in Heart, as I every Year experience. Then milk her once or twice before the Calf sucks, and give her the Milk to drink. It is a Fault to keep a Cow too well before she calves, for then she is apt to be so firm of Milk, as to endanger her Life; a Neighbour of mine had one in this Manner, that fell and died. Another fleshy Cow calved well, but, upon the Owner's giving her half a Bushel of Grains too soon, stocked her with so much Milk, that she fell and died. This also will be the Effect of cold Water, if given to a Cow that has been kept before in the House, the first Time after Calving; therefore we make it Blood-warm, twice or thrice, and put a Handful of Bran in each Pail. Now, to prevent the like Misfortune, give her dry Meat, a little at a Time, for the first two Days after Calving, to check the Milk, and hinder Danger. But when a Cow is poor, or in middling Order, there is no Occasion for this Sort of Management. However, for a more particular Account of these Matters, I must refer you to my next Month, wherein I shall recite a curious Case, as it happened to a Cow in *April*, 1736. In the mean Time I shall here add the following Receipts, by Way of Supplement to those mentioned in my former Treatise for *April*.

A most excellent first Drink to be given a Cow after Calving, to keep her in Health. I know several Sorts of Receipts that have been made Use of on this Account, and which I may mention in their proper Places: But there is none of them, for Cheapness, Readiness, and Efficacy, so valuable as this, which I learned of an eminent Farmer in *Somersetshire*, where they run chiefly on Dairying; who being a perfect Stranger to me, and, as I was informed, Master of several rare Receipts, which he practised with Success, I could not tell a

better Way to come by some of them, than to talk of some Improvements in Farming, which he liked so well, as to be free with me, and accordingly we exchanged some; and among the rest he communicated this supperlative one to me, which I have since several Times tried, and never found it fail my Purpose, and is as follows: Boil a Pint of Wood-foot in two Quarts of Ale till one Pint is consumed, then add and mix half a Pound of fresh Butter with it, and give it altogether, when near cold, and out of a Horn, to the Cow, and, if there be great Occasion, repeat the same at three Days End.— But my Way is to sweep half a Pint of that Soot as lies over the Oven's Mouth, and boil this Quantity in three Points of strong Beer or Ale, about fifteen Minutes; then add and mix a Quartern of Butter with it, and, when almost cold, put in a Pennyworth of Flour of Brimstone; then let one Man hold the Cow by one Horn, and her Nose, and the other give the whole Drink at several Times out of a Horn, one after another, as fast as she will take it.— This last is what I make Use of, and when any Inflammation in the Bag appears, which commonly is the Fore-runner of that deadly Disease, the Garget, I immediately give the Cow this Drink, and it always makes it, as it were, vanish away. The last Case of this Nature happened to an old Cow of my own, when Word was brought me, her Bag grew hard and very hot, and her Milk stringy, on which I gave her but one Drink, and heard no more Complaint. But this is absolutely necessary to be given to all Cows in general, the third or fourth Day after Calving, by Way of Securing her Health *in futuro*; and so much Stress is laid on this Prevention by most of the *Somersetshire* Dairy-men that they seldom let one Cow miss having it; and, since it has been thus in common Use, they tell me they are never troubled with a
snarled

snarled or inflamed Bag, nor any other Distemper arising from corrupted Blood, for that this Drink so purifies it, as to cause the Cow to give a most wholesome Milk. Thus I have cured my Cows, when one or more Teats have been sucked by the Hedge-Hog, which commonly caused Blood to follow, and a sore Dug. The first went away by one or two Drinks, and the other by anointing with Hogs-lard.

To make a Cow glean well, and keep her in Health afterwards. Take three Pints of Ale at least, a Quarter of a Pound of Currants, the like Weight of fat Bacon minced small, two or three Sprout-leaves, with a little Mint and Sage shred, and a little Handful of Oatmeal. Boil these together, and, when off the Fire, add a little Treacle. This is accounted a famous Receipt to heal a Cow's Body, not only in this Case, but also for restoring her Cud, and removing all Obstructions of the Maw, which cause several Distempers. And as it is a Custom with some to give all their Cows a cleansing Drink after Calving, I recommend this to be a good one for that Purpose. — A second is, to boil some Mugwort in three Pints of Ale, and, when almost cold, add a Pennyworth of Flour of Brimstone, strain off, and give the Liquor warm. A third is, to boil some Cabbage in a Pound of Bacon-Grease, and give it altogether. — A fourth is, to boil a Quart of ground Malt in two Quarts of Ale, and give all warm. A certain Person gave this last to a Cow, which, on the third Day after Calving, had not gleaned; but in five Days after it came away whole. But, in some other of my Monthly Books, I shall discover a Capital Secret, how to make a Cow glean in an Hour's Time for a Wager.

To dry Milch-Cows for Fattening. The Beginning of this Month being the common Time for putting

Cows which are not with Calf into Grazing-grounds to fatten: If they are not dry, dry them directly by bleeding each Cow in the Milk-vein. Others will do it by giving a Cow a Quart of old Verjuice once or twice, and it will make the Milk come away in Bits, and dry her on a sudden; but the Bleeding is most commonly used as the safest Way, because, as this Vein feeds the Milk-bag, the Milk is hereby checked, and that without Danger of a Gangrene ensuing: The Way of performing it is, by the common Phlegm-Instrument that Horses are bled with, and is a much safer Method than cutting off the Teats for this Purpose, as I have known done. Yet, as a better Way than all others, some will bleed the Cow in the Neck well, then anoint her Bag all over with Turpentine and Tar mixed together, and turn her out for good. But the Graziers make no more to do, than to let a Cow go unmilked, four or five Days, till her Bag akes and she mooves to be milked, then three Days after milk again, and three after that, and a Whey and Bits will come and she dry.

The Suffolk Way to make a Cow take Bull. This County, it is well known, abounds with many Dairy-Farms, and is no less famous for their excellent Barrel-Butter, than they are for making the worst of Cheese. When they sell their Firkin-Butter for twenty-five Shillings, they esteem it a topping Market; and as great Numbers of them chiefly trust to a Butter-market for a Livelihood, it more than ordinary concerns them to have their Cows calve at such a seasonable Time, as to enjoy the Grass in its full Perfection, otherwise it would prove a very great Prejudice to the Farmer, if he is obliged to feed dryish Cows on an early Bite. Besides, by having a new milched Beast forward in her Milk, the Owner is enabled to have the Benefit of the first Butter-market; to do which effectually, they have of late found

found out a Way to make a Cow take Bull at a desired Time, thus: Let one Man hold the Cow by the Horn and Nose, while another gives her a Quart of strong Ale, or better so much stout Beer, out of a Horn, and in an Hour's Time drive her to the Bull.

The Cheshire Way. This fertile Country is no less known for its famous Cheese, than *Suffolk* is for its Butter; and, for the foregoing Reasons, are obliged to study the Enjoyment of an early Milch-Cow. They therefore give half a Pint of Brandy or Gin at once, out of a Horn, and, at twenty-four Hours End, drive her to the Bull. And, to make a Cow stand to her Bulling, in next Month I shall tell you three several Ways, as they have been practised with Success.

To feed Cows with Ray-grass in Racks. In this Month some mow Ray-grass, and give it to Cows in Racks daily.

To mow it for Hay. The latter End of this Month I saw Ray-grass laid in a chalky Soil near *Winchester* fit to mow. In rich Grounds it has been mowed twice in a Summer.

Rye to be mowed for Cattle. By *Windsor* they mow it the latter End of *April* or Beginning of *May*, to give it to Cows and Horses in Racks. It is good to scour Saddle-Horses.

To feed Cows with Clover out of Racks. This Way I follow myself most Part of the Summer, by contriving to have a near Field sowed with Clover-seed, for then we can mow it daily, and bring it Home with more Ease; a distant Field, therefore, is not proper for this Undertaking; but, when we enjoy Clover out of Home Closes, by giving it to Cows in Racks under Cover, it prevents the common Danger of Hoving, Spoiling great Quantities of Grass by the Tread of their Feet and their Dung; the Torment of Flies, and the too great Heat of
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the Sun ; the Fatigue of driving them to the Field, and the Risque of the Cows breaking into Neighbours Grounds. Instead of which Disasters, that are incident to Cows grazing on Clover in the Field, we obtain great Quantities of Dung at Home, and employ our offal Straw to the best Advantage, large Quantities of Milk, and the Fattening of Beasts at the same Time, in the quickest Manner. Hogs also will feed on the Orts of Clover, as it falls from the Cows Racks, and go a considerable Way in the Subsistence of Store-Swine. One Acre of Clover, fed this Way, is thought to go as far as some six of natural Grass fed in the common Way, and as far again, at least, as Clover fed with Beasts in the Field.

C H A P. VII.

Of Cheefe.

IT is certain that there is a great Difference in Grounds, in Cattle, in Grasses, and in Management, as they all relate to the making good and bad Cheefe. Some natural Grass will have Cheefe, when others won't, as will most of the artificial Sorts, namely, Clover, Lucern, and Cow-grass, &c. Likewise, there are several Weeds or Herbs of ill Consequence, as Melilot and Crow Garlick, that are such stinking Vegetables, as oblige some Farmers to employ People to pull them up in this Month, to prevent their damaging the Butter, Cheefe, and Corn, which they will be sure to do, where they grow in too great Plenty and are let alone. The Cliver, or Rennet or Curd-wort, has a strong stinking Smell, and is also pernicious in curdling Milk in the Cow's Bag ; but they seldom eat it. Long Grass likewise produces a watery Milk, that is
much

much fitter to suckle Calves with, than for making Butter or Cheefe, because it does not afford so sweet a Milk, nor yield so much Cream as the shorter Honey-Suckle, Lady's-finger, Wild-thetch, and some other of our Meadow Grasses do. But this is not all, the Fault lies sometimes in the Cow; some will give a thin blue Milk, when another will give a thick creamy Sort: However, this is surely true, that, let the Ground, Beast, or Grass, be in their full Perfection, the Cheefe may, and is, often spoiled by a bad Housewife, as is annually proved in several of the *Leicestershire* and *Warwickshire* Dairies, where, when they had a good Servant, they had good Cheefe, and, when a bad one came in her Room, they had as bad. A Neighbour of mine, who carried on a Butter and Cheefe-Dairy, by the Help of Clover that grew on a hilly clayey Soil, used to have a Commodity that sold tolerable well, while his Wife lived, but never after could get a Dairy-maid that was capable of making either of these, from so precarious a Grass as Clover, though he changed several. In *Warwickshire* and *Leicestershire*, of late they sow a great deal of Clover, by which, with the Help of Stover or dry Fodder, they can begin to make Cheefe in *April*: But, as Clover and Stover are apt to make hollow rank Cheefe, they carefully strive to cure it, by salting the Curd a little the more; and yet, if it is salted too much, it will be dry and unpleasant. Another Way they take to prevent this is to put Water on the Rennet-bag, instead of Whey, and it will much help it. To this I add that necessary Precaution of breaking the Curd well, for this is a principal Matter, because then it will let out the Whey easily, which otherwise, in some Degree, would remain in it, and cause the Cheefe to taste rank, and rot soon; for Bits of Curd missing, being broke, will infect the whole Cheefe. The common Sort of Cheefe, sold in
Shops,

Shops, is what they call *New-milk* Cheefe, which, to answer the Appellation, should be made with all new Milk ; but this seldom happens, because it is generally made with half skim, and half new ; or what is more properly called *Two-meal* Cheefe. Yet there are two worse Sorts than this ; one called *Three-meal* Cheefe, that is made with two Parts skim, and one Part new, and the other with all Skim-milk, which latter is made in many Farmers Houses for their own Family Use. I knew a Dairy-man that lived near *Lilly-Hoo*, who, when he sold Butter for five Pence Half-penny *per* Pound, reckoned his true New-milk Cheefe to stand him in three Pence Half-penny *per* Pound, and therefore sold his own Cheefe to some particular Customers, and bought, for his Family Use, what they called at *Baldock* Fair, *New-milk* Cheefe, for two-Pence a Pound. A Gentleman, willing to have the best of Cheefe, bespoke one to be made with all Cream ; but he was answered by his Dairy-woman, that there was no such thing to be done, because the Curd would then be too short to work, but that it might be done with half Cream, and half new Milk.

To make Rennet. Good Grass causes a good Rennet-Bag ; that may still be made better, if the Calf sucks about six Hours before it is killed, for then the Curd will be the newer, and the Bag must be got away as soon as can be to be washed and scoured with Salt on both Sides, to make it sweet and white. Then, after the Curd is cleaned and washed, it must be put in again to the Bag, with a Handful or two of Salt, and skewered up to lie in an earthen Pot, close covered in a dry Place. When the Rennet is to be used, put some Salt into a Quart of Water, till it bears an Egg, and boil it ; when cold, put it into the Bag, and let all lie in the Pot again. This Rennet will keep a Month good,
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and, to about sixteen Gallons of Milk, use two Spoonfuls of this Liquor. If the Milk is cold, it must be made near, but not quite so warm, over the Fire as it came from the Cow, lest it turn the Milk to Curd too quick, and then the Cheefe will be tough and hard; but, when they use the Milk directly from the Cow, they don't heat it at all. In very hot Weather, I knew a Man, who kept but four Cows, put all his Milk into one Tub, and immediately, out of a River just by, he took a Bucket of Water and threw it into the Milk, in order to temper it, and make the Curd soft; then he directly mixed his Rennet with it. My Servant takes the following Method: She recruits the Rennet-bag three or four Times a Year with fresh Brine, and, when she is about to make Cheefe, she puts some Whey to stand all Night, and in the Morning she skims off a Sort of Cream; then takes her Rennet-bag out of her earthen Pot, and lets it lie two or three Days in this Whey; by this Time it is sufficiently tinctured with the Brine and curdling Nature of the Bag (which she never makes any Holes in, as some do) then she takes it out, and uses the Whey for Rennet, that will keep three or four Days or longer; and thus she proceeds all the Time she makes Cheefe, for a few Cows, each Time throwing Salt on the Bag, to keep it sweet in the Pot, and as it grows weaker, through often Using, the more Rennet must be put into the Milk.

The Welch Way of making Rennet. In *Caermarthenshire*, the Women empty the Curd out of the Bag as soon as it comes from the Butcher, and, after cleansing it well from Hairs and Filth, she rubs it soundly with Salt, till she intirely clears it of all slimy Matter; then she washes it with Salt and warm Water, and lets it lie under Salt in a Pan a Day or two, when she mixes a Pint or Quart of Stroakings, with a Handful of Salt, and puts all into the

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Bag ; then she runs a Skewer through at Top, and hangs it up, with a Pan underneath, to catch the Brine. Now, to improve this Brine, she takes a Handful of an Herb called there, *Goose-tongue*, and not quite so much Fennel, two or three Rases of Ginger bruised, and a few Corns of *Jamaica* Pepper, and two Handfuls of Salt ; these she boils in three Quarts of Water, till it is half consumed, stirring it well all the Time ; then she strains it off, and, when cold, mixes it with the aforesaid Brine that dripped from the Bag, and thus she has a Rennet for making Cheese. Again, when she finds the Brine ceases to drop from the Bag, she puts a little more Milk and Salt into it, and when the Bag decays, which it generally does at a Year's End, she boils it in the Liquor to get the Vertue out of it. *Note*, if the Calf sucks the Cow before she has been milked two or three Times, it will not only damage the Calf, but render its Bag very unfit for the Rennet Use, by breeding a hard Curd in it. *Note also*, That the *Goose-tongue* Herb grows chiefly in marshy Grounds, is very hot on the Tongue, and bears a yellow Flower in this Month, with an indented Leaf of a longish Make, somewhat like a *Goose's-Tongue*, that will not only help to preserve Cheese, but give it an agreeable Relish, as the *Welch* say.

To make a bottled Rennet that will keep Cheese from boving, and preserve it sound. Put four Gallons of Whey into a Kettle, and, as it heats, throw a Handful or two of Salt into it, which will raise Curds, that, before it boils, must be all clean skimmed off. Then put into the remaining green Liquor some *May-flowers*, or Leaves, Boughs, or Bark of *Black-thorn*, and boil them in it a Quarter of an Hour ; when cold, strain off. In this put two or three Calves Bags, that have been kept some Time in a Pot of Brine, to lie three Days ; then take them
out,

out, and bottle up your Rennet well corked for Use. This is best made in the Months of *May* and *June*, and thus a Woman, that kept but six Cows, made her Rennet for the whole Year. In some great Dairies they keep ten or twenty of these Rennet-bags in several Pots of Brine, that they may have them to use at a due Age; and, to preserve them in the Pots, they throw some Salt on their Tops now and then, as they lie in the Brine, which will still increase their turning Quality, and make them hold good the longer. Another makes bottled Rennet thus: Put one Pint of Whey into six Pints of Water with a Handful of Salt and five Sage Leaves, boil all a Quarter of an Hour, when cold, put in the Bag, and let it stand four Days, then strain the Liquor into Bottles with a Dozen of Cloves.

To make Cheese. After the Rennet is stirred into the Milk in a Tub, in about half an Hour, more or less, it will become a Curd, which must be broke by gentle Degrees with a Skimming-dish, as equally every where as possible, for on this depends chiefly the making of good Cheese, otherwise you may expect it to be full of Holes and Eyes: Then put the Curd into a Cloth, and move it to and fro, Cloth and all, over the Cheese-rack, and clear it of the Whey. When this is done, put the Curd and Cloth into a wooden Mould, or Cheese-vat, and a wooden Cover on that, and then press it, that the remaining Whey may run out through the Holes in the Vat: Next Morning take it out, and salt the Cheese all over, turn it, and put it into the Cheese-press again; when it is stiff enough, take it out, and put it on a Shelf, where the Cheese must be turned often, and wiped with a coarse Cloth.

To make Cheshire Cheese. Their Soil, in many Places, is of a marly, and some of a rich sandy Nature, which bears a most excellent Grass, that produces a rich Milk, and the best of Cheese.

Here they break their Curd well with the Hand, and upon every Layer of Curd they sprinkle a little Salt, and so on the Outside at each Turning, which, after a Year's End, is fit to eat, but better if it is two or three Years old. I have eat this Sort in a very mellow pleasant Condition, after it has lain some Time in a Wine-Vault on a Pipe of Sack; but better still, when it has been fed with Sack, put into a Hole of it, which certainly improves this Sort of Cheese to a surprizing Degree of Richness. But, in some Parts of *Wales*, they make Cheese of Sheeps, Cows, and Goats Milk, that, they say, exceeds *Cheshire* Cheese. Therefore in next Month I shall give you a very particular Account of making *Cheshire* Cheese, and another to make Cheese with Sheeps Milk, that is sold in *Chester* City for Six-pence a Pound, as it is made and brought there out of *Denbighshire*.

To make a very thin Cheese. To make this Cheese, some will fill the Cheese-vat with the Cloth and Curd; but, as it sinks, fill it up with fresh Curd every Hour till Night; but never do this with the Hand, only with a Skimming-dish. Next Morning they take it out, turn and salt it all over, then put it into the Cheese-vat again, and so on till it is stiff enough to take out for good. Then turn and wipe it on a Shelf Night and Morning; but, if it is late in the Year, some put this Sort of Cheese at Night in a Rack made for the Purpose, and in the Day-time on Shelves. When one Side is gently dried before the Fire, they turn the Rack, without shifting the Cheese, till it is thoroughly dried. This thin Cheese, made with all new Milk, is ready to eat in a Month's Time.

Marygold Cheese and Carrot Cheese. It is made as others, only with this Difference, bruise or beat the small yellow Flowers, and squeeze out their Juice, which must be mixed with the Curd, when broken,
and

and stirred well into it. It is a rich Cordial Juice: And so the Carrots are to be beat, and the Juice squeezed out.

Sage Cheese. It is made like the rest, only bruise Sage and Spinage together, and put the Juice in with the Rennet; the more Spinage, the less the Sage will taste.

To make a fine Cheese. Take three Gallons of Stroakings, and put to it a Gallon of boiling Water with a Quart of Cream; mix them well. If it be but the Stroakings of ten Cows, put in three Pints of Cream. When it is of a right Warmth, put in your Rennet, and, when it is come, cut it every Way with your Knife, and, letting it stand, it will settle itself without your Hands; then put it into a Cloth, and turn it every Way till the Whey be out of it. Then put it into the Vat or Mould, and press it half an Hour, at the End of which take it out, and set it in a Tub of cold Water in the Vat, and when it has lain here one Hour, put it again into the Press, in which let it stand one Hour; then take it out and salt it, and put it in the Press to stand till next Morning, when it must be put into a wet Cloth, changing it as often as it dries, and be sure to keep the Cloths sweet and wet. Set it in the coldest Place you can, and it will be ready in a Fortnight. If you make this Cheese in the Fall of the Leaf, it will be good till *Christmas*, and longer; but then you must add more Milk, Cream, and Water, in Proportion. *N. B.* If you make this Cheese early in the Spring, or at the Fall, then put your Rennet into it the hotter; but, if in Summer, as cold as it will come.

To make Slipcoat or Cream Cheese. Take six Quarts of new Milk, a Pint of Cream, and a Spoonful of Rennet, and, after the Curd is come enough, take it gently from the Whey; then shake, or rather squeeze it tenderly in a Cloth over the Cheese-rack

rack, and put all into a wooden Mould, and a Weight of three or four Pounds on its Cover. Next Morning take it out, salt and turn it, then put it into the Mould again, with the same Weight on, and at Night take it out for good. This Cheefe must directly be laid on a Bed of Nettles or Rushes, or Ash-leaves, and covered with the same, shifting it twice a Day, for eight or nine Days, and then it will be ready for Eating.

To make an excellent Cream Cheefe. N.B. Take two Quarts of sweet Cream, set it over the Fire till it has boiled up; then take it off, and put to it four Quarts of Stroakings warm from the Cows, and when you have stirred it together, that it is not too hot, put into it two Spoonfuls of quick Rennet. When it is come, turn it whole into a Cloth, then whey it as you do any other Cheefe, and, when it is come well together, put it into the Vat, and lay about ten Pound Weight upon it, only till you can turn it, which must be in an Hour or two; then take it out, and put it into fresh Cloths, till it will wet no more. Then salt it as you think fit, and let it lie out of the Press a Day or two, when you are to put it between two Pewter Dishes, and turn it once a Day for three Weeks; then take it from between the Dishes, and let it be four or five Days before you eat it.

The Montgomery Way to make Cream Cheefe. Take six Quarts of Stroakings, or new Milk, and one Quart of Cream; then put one Quart of boiling Water on it, and a Spoonful of Rennet, which cover very close with Cloths. When it is come, whey it with a Skimming-dish, but have a Care of bruising the Curd too much; then turn it on a Cloth into the Cheefe-vat, and let it lie under a six Pound Weight. Change your Cloth once in three Hours, but be sure not to let it be quite dry when you use it, lest it sticks. Lay Salt on the last
Turning,

Turning, and keep it in Grasse near the Fire, with Flannels under and over it.

To make a poor Cheefe. A certain Farmer who kept but three Cows, and made Butter, used to put a little Skim-milk to his Butter-milk, and make it into Cheefe: Also, in some Parts of the *West*, where they carry on the hot Dairy, they make a poor Cheefe with the Skim-milk that is commonly sold to the Tanners or Miners of *Cornwall*, for ten or fifteen Shillings a Hundred.

To make a rich Cheefe. Mix half your Quantity of Cream with your Milk hot from the Cow. If six Gallons of Milk, there must be three Gallons of Cream. Stir them together, and put in as much boiling Spring-water, as will make all a little hotter than Milk from the Cow; then put in a Spoonful, or as much Rennet as will do. When the Curds are come enough, gather them from the Whey into a Cloth, and break them very small; then salt it, and put it into a Cloth again, and then into the Vat and Press for only two Hours. While this is doing, boil the Whey, and take out the Curds from it; then put the Cheefe into this Whey to stand half an Hour, at the End of which, put it into the Press again, and, when it is enough done, roll the Cheefe in Linnen very tight, and let it remain so fourteen Days, and turn it twice a Day for a Month. This rich Cheefe is as well worth nine Pence a Pound at the Dairy, as Two-meal Cheefe is three Pence: But even this Cheefe is not to be made so good from long Vale Grass, as from the shorter, and finer Sorts. If you first tincture this Cheefe well with Mace, it will give it a very agreeable Taste.

Several Directions to make sound Cheefe, and preserve it so. Take Care you don't put too much Rennet to the Milk, for that will bring on the Curd too quick, and hove the Cheefe. Likewise, if the
Milk

Milk is too hot, when the Rennet is mixed with it, it will do the same. New Rennet is also apt to bring on this Misfortune, and therefore some are so careful, to mix the new with the old: Or, if you are to use all new, keep it a Week before it is put to the Milk. Others, to prevent the Cheese's Hoving, will mix skim and new Milk together, which, with well breaking of the Curd before-hand in the Cheese-vat, and squeezing the Whey out clean, will answer the End. Others take a great deal of Care not to over-press it, lest it make the Cheese hard and unpalatable; though it is certain, that, by such hard Pressings, the Cheese will keep the longer. The forward made Cheese, in some Seasons, dry so fast, that they are forced to turn them often, and rub them, to keep off a blackish nasty Coat, that otherwise would eat into them, and spoil their Sale. Some again, more nice, after they are rubbed and turned several Times, will butter their Out-sides all over and keep them sound, and add a golden Colour to them. If the Summer is very hot and dry, put the Cheese into shady Places, and dry leisurely, for, if they dry too fast, it is apt to hove them, and make them full of little Holes. But in, and after *August*, they never fear this, nor that they will have a bad Coat. Others, to keep Cheese from rotting, will put Whey on two Rennet-bags, to the Quantity of a Gallon, which they let lie three Days, then draw out the Liquor, and boil it with some Bark of Black-thorn; when cold, either put it over the Rennet-bag, a little while, or, by adding some Salt to it, you may use it directly. You may give Cheese several Sorts of Relishes as you like best, by boiling Sweet-briar-tops, or Mace, or other Spices, in the Brine or Rennet: But Mace alone is preferred by most. In this Month, in some Grounds, Cheese is very apt to hove, though the Cows are fed on natural Grass; and therefore, in
some

some Dairies, they don't make their thick keeping Cheefe till *June*. I know a Ground in a certain Vale, that, in dry Years especially, runs into Knot-grafs or Clob-weed, wild Garlick, and some other pernicious Weeds, to that Degree, that, if they don't break the Curd very well with their Hands, after it is wheyed, and then cut it into Diamond-Pieces, and work it a second Time, the Cheefe will certainly prove specky and rot: Or, if they put a greater Quantity of Rennet into the Milk, than what by Experience they have found proper, it will surely hove the Cheefe into a Puff, and spoil it.

Somerfetshire Cheefe. They break the Curd as leisurely, and as small as possible, then drip out the Whey; with this Whey mix half Water, and heat it over a Fire between warm and scalding; then strain it upon the dry Curd in a little Pail or Tub, and work it round with the Hand, and, after it has thus lain half an Hour till the Whey creams over, drip the Whey out and knead and bruise the Curd well; when so done, put it in a Cloth and then into the Vat, and press an Hour; then take it out and wash the Cloth, and let it stand in the Press till the Evening, when it is to be taken out and salted on both Sides and pressed again till next Morning; then take it out and put it into a dry Cloth, and let it stand till the next Evening; now it is to be taken out from the Cloth, and let stand naked in the same Vat to smoothe it all Night; next Morning take it and put it on a Shelf. *N. B.* The Whey and Water is to keep it from hoving.— In next Month I intend to give you a very particular Account how to make *Cheshire* Cheefe, and thirteen other Sorts, more than are here, that you may make that which best fits your Fancy.

To turn Milk without Rennet. A French Author says, that Carduus-seeds, the Spawn of a Pike, the Juice of the Fig-tree, Ginger, the inner Skin of

a Hen's Stomach, or the Flowers of Thistles or Artichokes, are of so four a Nature, as to turn Milk into Curd : But the most natural Thing of all others for this Purpose, is certainly the Maw of a suckling Calf or Kid. Some cut off a Bit of this prepared Maw, and put it into the Milk : Others pickle the Maw, and dry it in the Smoke. In *Essex* they have an Herb called *Cheese-Rening*, or *Yellow-Lady's Bed-Straw*, which turns Milk like Rennet.

The Character of a good Cheese. He says, it should be fat and heavy, the Meat of it close, and well compact, of Colour something yellowish, sweet to taste, pleasant to smell, and nothing mouldy nor mity ; made of pure Cows Milk, without mixing any Sheeps Milk therewith, for it makes the Cheese less savoury, and more whitish.

To make Cheese at Over in Cambridgeshire. To twenty Gallons of Milk, they put three Spoonfuls of Rennet, and in half an Hour it comes ; but they don't put it hot from the Cow, only luke-warm, else it will be tough, and run to Coat. Then break it with a Skimming-dish, and stir it from the Bottom all one Way, for, if it is mashed together every Way, it will be lean, *i. e.* the Butter will run more into Whey. When it is settled half an Hour, take out a Plug that stops a Hole in the Middle of the Tub to let out the Whey ; then put the Curd into a Canvas Cloth, and roll it gently up and down between two Folks, till the Whey is drained out. When done, tie it up, and hang all on a Nail to drip dry ; then put it into a deep Cheese-Vat, and lay a Board over it, and on that a four Pound Weight, to fasten it, and leave it so all Night. In the Morning, this Cheese is turned out nine Inches thick, and with a long silken Thread cut into Cheeses half an Inch thick, which are laid on smooth Boards and gently salted and turned twice
a Day

a Day for the first four Days, and then laid on Nettles near the Ground, and turned twice a Day for three Days, and the next Day they are laid on Boards to dry; and six Cheeses, on each of them Boards, are carried to Market, where they are sold after three Pence and four Pence a Pound. In hot Weather, eight Days, in cooler, a Fortnight finishes them.

A second Sort of Cheese, called Morning-Milk-Cheese, is made of the whole Meal of Morning Milk, and set hot from the Cow, and made after the same Manner, and will sell for two Pence or three Pence the Pound. This Cheese will have a rough Coat, and will keep two or three Years, if laid moist in a Cellar, the other will be smooth.

A third Sort, is made after the same Manner, but thicker, and pressed harder, which will keep all the Year, and is called *Morning-Milk-Cheese of the first Make.* This sells for four Pence the Pound, and is dry and fit for Eating the latter End of July.

A fourth Sort, called Evening-Milk-Cheese of the first Make, is made after the same Manner, and sells for a Half-penny, or Penny a Pound less. The Reason, why Morning Milk is best, is thought to be from the Rest of the Cow; is much less in Quantity, and is but eight or nine Hours from the last Milking; and it yields more Cream, and it will not sour in hot Weather, so soon as the other, by three or four Hours.

A fifth Sort, is Two-meal Cheese, viz. the Morning Milk is set till Night, and skimmed, and to it the Evening new Milk is put, and so made into a Cheese as before, which will sell for two Pence, or two Pence Half-penny the Pound.

A sixth Sort, is fleet Milk Cheese, which must be in a Heat accordingly, when put together, and made as the other, only pressed very hard, and sold

at two Pence the Pound, or under; but it is seldom brought to Market.

The old Way of making Cheshire Cheese. When, at six Years old, the Cows are in their Prime, sixty will yield six Quarts each every Meal; of this the best Cheese is made as follows: The Milk is strained into a Cheese-Tub, as warm as they can from the Cow, to which are put six Spoonfuls of Rennet, which being stirred well together, and covered with a wooden Cover made fit for it, about the Beginning of *June* it stands three Quarters of an Hour, but in hot Weather less Time; then with a Dish break it pretty small, and then it must be stirred gently moving till it is all come to a Curd, when it must be pressed down with the Hands and Dish gently, lest the Whey rises over white; and when all the Whey is drained, and the Curd pretty hard, then it must be broke into a Vat very small, and heaped up to the highest Pitch, and then pressed down with the Hands gently at first, afterwards harder, till as much Whey be got out as can be that Way, and yet the Curd be at least two Inches above the Vat, otherwise the Cheese will not take Press, that is, will be sour, and full of Holes or Eyes. This done, it must be put into one End of a good flaxen Cloth, and covered with the other End; and then the Cloth must be tucked in with a wooden Cheese-Knife, that it may lie smooth, and yet keep the Curd quite in; then this is pressed with a Weight of four Hundred, and left to stand from Morning about Nine, till Afternoon about Two o' Clock, and then taken out, turned into a dry Cloth, and pressed again till Six at Night, and then it is taken out, and salted all over (else it will be maggoty) and put in the Vat again to lie in it all Night; then it is taken out and salted again, and so it lies in a Tub, or on a Dresser, four Days, only it must be turned every Day: This done, it is washed

washed in cold Water, wiped with a dry Cloth, and carried into a Cheefe-loft to dry, where it must be turned and wiped every Day till sold. If the Salt is not wiped or washed off, it will give, and make the Cheefe always moist. The Reason of Mouldiness, Cracks, and Rottenness, is the not well Curing it, as Pressing and Looking after it well.

Remarks on Cheefe and Butter. If Milk be set too hot, or be scalded in the Curd, as some call it, the Cheefe will be bitter, and, the longer such is kept, the worse it will be. If it be set over cold, it will cut white, and eat harsh and dry when new; but it will improve by lying, and is best esteemed of for keeping Cheefe. One of the greatest Faults in Cheefe is, its Heaving, which is common where there is the richest Pasture: Some say the best Way to help this is, by pasturing Sheep with their Cows, that the best of the Grass may be quickly eaten. Another Way is to salt them in Brine, or lay them on cold Pavements, for it is reasonable to believe, it is caused by an over-great Fermentation, not only from the Heat, but also from the Briskness and Thinness of the milky Particles gained from the Luxuriancy of the Grass; therefore cool Rooms in Summer, and warm ones in Winter, are most agreeable. — To stop the quick Flight of watery Particles caused by drinking cold Beer, and other thin and spirituous Liquors, that leave the Body dry, faint, and feeble; the *Dutch* eat much Butter, the *French* much Bread, and the *Spaniards* much Chocolate, which is very oily. If therefore our Mowers, and other Labourers, would use hot Broth more, or buttered Beer, or Ale, it would make them cooler, less thirsty, and enable them to do more Work. Cheefe is a Food most nourishing, and, if good, the older the better; we see it and
strong

strong Drink support the Labouring-man six Days in the Week. Cheefe is valued every where.

C H A P. VIII.

Of Butter.

AS I have already observed, that some Ground will not produce good Cheefe, I likewise have here some Reasons to offer on Account of Butter; for where the Grass is long, rank, rushy, marshy, or in Woods, then the best Sort must not be expected: However, as Art assists Nature, somewhat of these Deficiencies may be helped by Improvements. First, then, I shall observe, that the Food of Cows are natural and artificial Grasses, Turneps, Coleworts, green Thetches, Rye, *French* Wheat, &c. But the natural Grasses are, past Dispute, the best of all others, and of them the Upland Sort excels; and, of that, the Grass, produced by the Manure of Ashes, Soot, Lime, or Salt, is the sweetest, for making Butter; but that, which gives the Butter a delicate deep yellow Colour and Sweetness, is the Lady-finger Grass, as I have before observed. Clover-Grass, indeed, is a full Bite, and produces a great deal of Milk; insomuch that an Acre of this, well planted, is reckoned to feed as many Cows as two or three of Meadow; but this has its Faults, for, at best, it makes but a coarse Butter and Cheefe of a disagreeable Taste, and worse if it stands too long before it is fed; therefore it is best sown with Ray-grass and Trefoil, which will make a better Butter, and be a safer Feed than Clover alone. Lucern, also, will cause Abundance of Milk; but I am obliged to say it is a hoving rank Grass for Cows. *St. Foyne* and Trefoil, likewise, breed much

much Milk, but the former is not so proper to feed Cows in the Field, by Reason its succulent large Stalks are apt to bleed, and lose their Sap too much, when the latter will not, and is one of the best artificial Grasses for this Purpose, if fed young, else it is apt to cause a bitter Taste in the Butter. In Consideration of which bad Properties, some will mow these Grasses daily in the Summer, and give them the Cows under Cover, to make them lose their hoving and rank Quality in a great Degree, prevent the Cows trampling them with their Feet, and keep the Cattle from the Fatigue of Flies, and the scorching Heats of the Sun, as I every Summer do, for carrying on the Business of suckling Calves; and this we are the rather encouraged to do on another principal Account, which is to preserve their Feet sound; for, if the Cows suffer by long Drifts and sore Feet, they will give less Milk, though they feed in the best of Pasture; therefore I have known a Gentleman be at the Charge of Shoeing his Cows, even in the more softer Vale Ground.

Necessary Utensils. These being indispensably necessary in a Dairy, it is of Consequence to have them in the greatest Perfection. Of all Churns, there is none so good as the Barrel Sort, for Dispatch, Ease, and Profit; for some of these will churn forty or fifty Pounds at a Time by one Man's turning it, or sometimes two: I have one of the Firkin Size, that churns from one to two hundred Pounds, with Ease. Next to this Utensil, is wanted the square wooden Cooler, lined with Sheet-lead, and mostly at this Time of the Year used for setting Milk, instead of the old-fashioned Brass-pan, which gave the Milk a small Tang. In Summer-Time the Leads are accounted better than the shallow round Tubs, because of their great Coolness and smooth Sides, which in hot Weather raise much Cream, and for let-

letting the under Skim-milk out at a Cork-hole as they lie. The earthen glazed Pans are also serviceable on this Account, and will answer the Purpose where Leads can't be afforded; but, in Winter, the Tubs or Kivers excel, as being warmer, and consequently raise most Cream. Cellars are best to keep Milk in, and that, under the Cover of a thatched Roof, is better than one of Tiles; because the former is warmer in Winter, and cooler in Summer, than the latter. The great oval or round Tub is constantly used in Summer, where there be a Number of Cows kept, to receive and cool the Milk, before it is put into the leaden Kivers, and then there will arise the more Cream. Others will first put in a little cold Water in each Lead in the Summer, and warm in Winter, and the Milk from the Cows on that, which will cause it to yield more Cream, keep it longer sweet, and prevent its Clouting or Roping. There are also several other Utensils belonging to the Dairy, as a Straining-sieve, Pails, Trenchers, Weights and Scales, Basket, Trays, and others well known to every Dairy-maid, and some Sort of Shop-keepers.

The Management of new and skim Milk. In Winter they let their Milk stand two Meals before they skim. In Summer, that which they set at Night, they skim next Morning, and so on gradually, according to the Season of the Year. If they keep above twelve Cows, they commonly churn three Times a Week in Summer: If under, twice a Week in Summer, and once in Winter. I know a Vale Farmer that keeps fourteen Cows, and yet churns but twice a Week in Summer, and that under the Disadvantage of having no Cellar; but then he is obliged to skim his Milk every twelve Hours, and just boil the Cream a Wallop or two to preserve it, for, without this Method, he could not keep it

two Days together, from a little Sowering another, after the Cows are all milked, will drip them over again, and put the Stroakings (which are little inferior to Cream) cold into the Cream-Pot, to keep the rest sweet and fresh. In Summer, wash out the Leads with cold Water, and give the milky Water to the Hogs. In Winter, do it with hot Water; but never employ a hand Brush, or hard Sand to scour them with, only with a Piece of Leather, or Wisp of Straw or Hay, rub them with Salt or soft Sand, or Wood-ashes.

To improve Cream. To do this, take a Pint, or more, of Stroakings, that may be got from six or eight Cows, and divide it into several Pans, or Leads, or Kivers; then pour into the same your new Milk, and it will increase your Quantity of Cream. About *Bristol* in the Winter-time, they boil their earthen Pans, and dry them by the Fire, to raise the more Cream by their Heat. Many, after the first Cream is taken off, will let the Milk remain in the Leads, Pans, or Tubs, for six or seven Hours, and then skim off another Cream; the first is to make prime Butter.

To keep Cream sweet in the hottest Seasons. In Summer, some are so curious, as just to boil the first Skimming of Cream, in order to make it serve, as a Security, to keep all the other raw Cream sweet, that is afterwards to be added to it, so that, if your Churning is twice a Week, there must be two Boilings of the first Cream.

A second Way, is to keep raw Cream in an earthen or leaden Pot, and that kept in cold Water, shifting it every Day into a fresh one; and this Practice may be carried on to Advantage, during the whole Summer. But, in Winter, twice Shifting in one Week will do for making good Butter.

A third Way, to keep Cream sweet, is to put a little Salt among the first, and the Cream of other Meals on that, which, with Stirring now and then to keep it from Clotting, will be a great Means to preserve it fresh and sweet.

To make Butter in a cold Dairy. When the Cream is ready, carefully strain it through a Cloth into the Barrel-Churn; and, as this Sort of Churn by a Handle and Spindle may be used with a more even and constant Motion than the beating upright Sort, be sure to turn it gently, for then the creamy fat Part will separate from the thin watery Part, and cause the Butter to come hard and stiff, whereby it will obtain a sweeter Taste, and keep longer; but, if it is turned too fast, and with uneven Motions, it will make the Cream ferment too much, and be all of a greasy bitter Nature: Again, if you cease your Turning but a few Minutes, the thick and thin Parts will unite, and be apt to join, and then the Labour must be renewed. If Cows are stale milched, the Butter is difficult to come, and so it is in extreme cold Weather. If the Cream swells and hoves in the Churn into a high Froth, then it will be some Time before it comes; therefore, in Winter, put some hot Water or hot Milk into it. Others will put a Half-Crown-piece into the Churn, or a pewter Spoon, to make the Butter come the sooner. But the common Way in Summer-time is, to put cold Water in, and fill the Churn with it, just before the Cream is strained into it, and in Winter as much warm Water. The first is to prevent Over-heating the Butter, which greatly damages it; and the latter, to take off the Chill, that otherwise would impede it. When the Butter is come, which you may know by its Quashing, turn something slower than you did, that it may the better gather, and then, before it is enough,

nough, it will be sometimes near Half an Hour ; then take it out with your Hand, knead it well, and mix beaten Salt regularly with it ; this must be carefully regarded, else the Butter-milk, Whey, and Salt will shew themselves in Strakes, that will soon corrupt and spoil the Butter.

To make Butter in a hot Dairy. There is more than one Way to do this : In two certain Counties, where I have travelled, they make almost all their fresh Butter, that they sell in their Markets, in the *hot Dairy*, as they there call it. One Way take as follows, *viz.* — They put their Milk as hot, and as soon as they can, from the Cows, into brass or earthen Pans, and let it stand twelve Hours ; then, with a steady Hand, lay Pan and Milk and all on an iron Frame, under which should be burning Charcoal, or Live-coals of Wood, whereof the ashen Sort is accounted best ; which are to heat the Milk and Cream, till it is scalding-hot, or that you can bear your Finger in it ; then take it off, and set it by twelve Hours more, when you are to skim off a clouted Cream very clean. This, with more, is to be put into a Barrel-churn, just rinsed before with cold Water in Summer, and hot in Winter, else the Cream will stick. Then churn away, and, in little more than Half an Hour, the Butter will come, and be very sweet for two or three Days, if you beat all the Butter-milk clean out of it. —

N. B. The hotter you put the Milk from the Cows into the Pans, the more Cream will arise ; and, if you use the earthen Sort, they must be first boiled, or heated before the Fire, in order to keep the glazy Part from cracking, which otherwise they are apt to do, and give the Butter a disagreeable earthy Taste.

A second Way is by putting Milk in a Pan over a few Embers, and, at twelve Hours End, to skim off a clouted Cream with the Hand, which, by being

put into a wooden Tray, or Bowl, may, by Motions of the Hand, be presently beat into Butter. Thus, while a Dish of Fish has been dressing, the Butter has been made for Sauce; and thus, by heating the Milk, the greatest Quantity of Cream is to be obtained, and the Butter-milk so sweet, as to serve for several Uses; but observe, that Coal or Turf-fires spoil the Sweetness of both Butter and Milk.

To make Whey Butter. This is done by setting the Whey from new Milk-curd in Tubs, Leads, or Pans, as they do Milk from the Cow, and, when it has stood long enough, there will be a Cream over it; which churn, and make Butter with it. But some, to improve it, will add some new Milk-cream to the Whey-cream, and then it will make Butter, that sells for about a Penny a Pound cheaper, than the better Sort. The remaining skimmed Whey they give to the Hogs; for Whey is said to fat a Hog, when it will starve a Dog; and Butter-milk to fat a Dog, and starve a Hog. — A certain Dairy-woman always used to boil her Whey-cream in a brass Kettle, and put it each Time into a Pot to other Parcels, and made it into Butter twice a Week: This Method makes such Butter keep almost a Week together, and not so rank, as that made with Boiling. Butter-milk, given to Store-pigs, will scour them, but it will not older Hogs.

To make Butter in Winter. Scald the Churn, and empty the Water, then directly heat your Cream, and put it in; churn away with a pretty quick Motion to keep the Heat on; and, if the Butter comes in very small Bits, as it sometimes will, little bigger than great Pins Heads, put a Pint of hot Water into it, and churn leisurely, and the Butter will gather, and come well,

Another Way. I was told, in *Suffolk*, to make Butter after a very particular Manner, thus: Put
as

as much Cream into an upright Churn, as you think will make six Pounds of Butter; set the Churn before a Fire, and stir well into it six Spoonfuls of Rennet; let it remain in this Posture an Hour and a Half without Stirring, turning the Sides of the Churn now and then to enjoy an equal Heat; at the End of that Time, churn away with the Mundle-stick, and, in about six Minutes, you will have a Butter; then let it stand a while, and it will gather; which take out, and wash, as usual. But this I never tried.

To prevent or lessen the rank Taste of Butter, made from Clover, Turneps, Leaves of Trees, and other strong Foods. As Milk is the most homogeneous and universal Diet to the Body of Man, the Enjoyment of it, in its purest Condition, ought to be endeavoured with our utmost Care. In the Year 1737, I observed, that the Generality of the People of *Bristol* and *Bedminster* are so nice in this important Article, that they refuse all Milk, they know is produced from the Food of Grains; and, when about *Michaelmas*-time, that the Leaves begin to fall, the Dairy-woman is obliged to manage after a different Manner, than she did all the Summer before: To do which, she leaves off making Butter in her cold Dairy, and then begins to make it in the hot Dairy, according to the aforesaid Method, in order to prevent an ill Taste in the Butter, that may arise from the Cows Eating Ash, or other Leaves, that then lie on the Ground; and this Way she continues all the Winter, and till they eat nothing but Meadow-grass again, that no ill Relish may accrue from Fodder, or otherwise. How excellent, then, must this hot Dairy prove to those, who have nothing but Clover, Lucern, and Trefoil-grasses, and Hay; or that feed their Cows on Turneps, Coleworts, Carrots, or Grains, and Fodder, all the Year; for, by this Means, the Rankness of their Milk, if not wholly

wholly taken off, is much abated. However, in next Month, I shall give you a Copy of a large Account, published by the *Royal Society*, of a Method, communicated to them, for feeding Cows after a most profitable Way; whereby those, who have a Conveniency for it, may make the sweetest Butter at the cheapest Rate, and the smallest Cow to return ten Pounds a Year, and that by feeding her with no other Food, than one Sort of artificial Grass, and the Hay made of the same after a peculiar Manner: Also how to pat Butter, and turn Salt-butter into fresh, and make it after several Ways, as they are at this Time practised by the nicest Dairy-farmers in the Vale of *Aylesbury*, and other Parts.

Why Making Butter and Cheese is more profitable, than Suckling Calves. This brings in Money without laying out any, furnishing, besides, skim Milk for Family Use, and wherewithal to feed Swine; whereas, in Suckling, there is a Charge, and Trouble of going to Market to buy Calves, and then no more Profit, than bare Suckling.

Cambridge-Butter. This Butter is deemed the best Sort of Salt Butter sold in *London*; and the Way of managing this and Cheese I shall give you, according to *Mr. Houghton's Dairy Housewife*. At *Over*, where they make the best Butter for the Colleges, seven Miles from *Cambridge*, they sell off their driest Cows, and buy in others, that will calve in each Winter-month; which as they are new-milched Beasts, they produce a yellow Butter, that they sell by only the Weight of sixteen Ounces to the Pound. In *April*, they go in natural Grass, and give about twelve Quarts each a Day; which Parcel, when skimmed, yields about a sixth Part, or four Pints of Cream, which will make almost two Pounds of Butter.

They churn twice or thrice a Week, and put the
Cream

Cream into a clean earthen Pot every Morning, which keeps it from souring, and makes it the best of Butter, though not so much.

About Sun-rising, they put the Cream into a Barrel-churn, after they have milked their Cows; for it is a Proverb, *If the Cows be not milked by the Time the Herdsman blows his Horn, it spoils the Dairy-maid's Marriage*; and he blows about Sun-rising.

In a great Dairy, they sometimes put into a Churn, about the Bigness of a Barrel, twenty-two Gallons of Cream, which fills two Thirds of it. This, with the Labour of a lusty Man and Maid, comes to Butter in about an Hour's Time, more or less; in hot Weather it is soonest, in cold Weather the longest; but, if the Cold be much mended by the Fire, it changes the Butter in Taste, Colour, and Stiffness; but to be in a Room, a Yard and a half distant from the Fire, does well; but, in very cold Weather, they put boiling Water into the Churn, till it thoroughly heats it, and, that being taken out, they put in the Cream. These twenty-two Gallons, or 176 Pounds of Cream, yield about seventy Pounds of Butter.

Here some use the upright Sweep-churn; others use Barrel-churns, and reckon them best; and one, that keeps sixty Cows in *Denny*, a near Town, has a Barrel-churn, that holds an Hogshead.

When the Butter is come, it is taken out and washed, if for present Use, otherwise not; and, with a little fleeting Dish, drawn backwards and forwards in a Bowl, a little at a Time, to let out the Butter-milk; and, the cleaner that is got out, the better is the Butter: Then it is salted; and a Quart of Salt, which is about the fifteenth Part, will serve thirty Pounds of Butter; but some put more or less; and, when salted, it is drawn over again, with a fleeting Dish, once or twice; then weighed into Pounds, and rolled into long Rolls;
then

then put into a Basket, and hung all Night in the Well, within a Yard, or four Feet of the Water; which will make it stiff.

A new Way to preserve Butter sweet and sound. It is said, that the *Over Butter* will not keep so long as *Suffolk Butter*; but a famous Dairy-wife, that lived there, used to make her Butter into Balls of thirty or forty Pounds Weight, and salt it a little more, than for fresh Butter; and this she laid in the Middle of a Bin of Flour, and it would keep good all the Winter. Others salt it as usual, and put it into Pots, and cover it about two Inches high with good Brine; but this will not keep so well as the other. Others make a Brine so strong, that an Egg may swim in it, and therein put Pounds of fresh Butter, and it will preserve them from Rowing beyond Salting the Butter.

The Butter-milk is drank by some, but the Hogs have the Main of it; and, if it stands long, it will turn sour, and, in a Week's Time, from five or six Quarts, will arise a thick Skin at Top, as thick as one's Finger; and, under it, will be a very clear bluish Whey, and, at Bottom, a thick Curd, but not like Cheese-curd; it is knotty and very slippery. Of this Butter-milk some poor People make Cheese, but it is very tough, and must be eaten, while green or fresh: The Whey, that comes from it, is very thin, sour, and green, and the Hogs care but little for it.

But this sour Whey will take off Sun-burns, cleanse and smooth the Skin, and keep it from Tanning.

In *May, June, and July*, they chiefly make Cheese; that is, they milk the Cows half, which they use for Butter; the other Half, or Stroakings, they use for Cheese; and these Stroakings yield most Butter and most Cheese, and least Butter-milk or Whey.

In an indifferent Year, a good Cow will yield, at this Time, sixteen or eighteen Quarts a Day ; and, if the Weather be dripping, she will yield more, and then Butter is made longer.

Sweet and new Cream will make very pleasant Butter for present Spending ; but, if the Cream stands till it is sour, the Butter will be very good, and keep longer, if it be not over-heated in the Churn ; but, if it once turns bitter, it is good to spend it presently, for it will soon decay.

At the Fall of the Leaf, and in cold Weather, Cream will turn from sweet to bitter, and the Reason is generally said to be, because the Cattle eat the Leaves of Trees ; but a Friend of mine will not allow it, because it will be so in low Grounds, where there are no Trees, as well as Uplands, where there are ; but what the Reason should be is hard to know, till we have a good Theory of Taste, which I find hard to be got, and greatly wanting. The best Way, he says, to prevent this Bitterness, is by setting the Milk a less Time, and churning oftener ; but this will produce but a small Quantity, and it is best to sell and spend it new, and not to pack it in Firkins, for it will not sell in *London*, but the Traders are forced to ship it off, and send it elsewhere.

Some churn new Milk, which makes the best Butter, but it will not keep. I am told, that, if salt Butter be well washed, and then beaten up with new Milk, it will taste like fresh Butter.

The *Irish* rot their Butter, and, in hot Countries, they clarify it : The Taste of either pleases not those that do not imitate them ; notwithstanding, I have eat excellent *Irish* barrelled Butter.

Whey Butter. The Cream of Whey will not yield half so much Butter, as the Cream of Milk will : It never is so hard as that, nor keeps so long ;
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but,

but, if used fresh, it is almost as good ; a great deal of this is sold in the Markets.

Wild Curds. From the Whey, if set on the Fire, will arise wild Curds by putting new Milk and four Butter-milk to it : When it is ready to boil, and when it rises, the Curds must be taken off with a Fleeting-dish or Skimmer, and then, with putting in more Milk and Butter-milk, more Curds will arise : Two Quarts of Milk, and as much Butter-milk, will serve for six Gallons of Whey. Good Butter-milk and the best Whey will fatten Hogs well.

C H A P. IX.

Of Hogs.

O*f Feeding Hogs.* The common and cheapest Way of bringing up Hogs of late is to drive them in this Month into the Clover-field every Morning with the Cows, and bring them Home at Night, where they should have Plenty of Whey or Skim-milk, Wash, Grains or Corn ; but seldom give them any Breakfast, lest they neglect Feeding on the Grass : However, this great Conveniency has one Inconveniency attending it, and that is, the Clover will tincture their Flesh with a yellow Colour, that never will be intirely altered on better Feeding. The same does some Sort of Wash, where they are fed and fatted on nothing else but that and Grains ; as many are, to the great Profit of the Owner, which, being not to a great Degree deprived of their Goodness, are mixed with very hot Wash of Spirits, of so strong a Nature as intirely fats the Swine, both for Pork and Bacon in a little Time. Others buy their Wash of the Distil-
lers,

lers, and by mixing Bran, Pollard, or Grains with it, fat great Numbers, others will do this with the Offal of Slaughterhouses. But I knew a Tallow-Chandler, who sent his Greaves twenty Miles into the Country to feed his Swine with; that made such a Stench, as hardly could be borne by the Neighbourhood: How wholesome such Meat must be, may be easily judged. In my Opinion, Hogs, fed with Horse-flesh, are far preferable. So some will feed with Fish, who live by the Northern Sea, which undoubtedly gives an oily, unfavoury, unwholsome Quality to the Flesh. Others, again, will give the sweet Food of Carrots, Parsnips, Potatoes, Turneps, raw or boiled, and mixed with Pollard, Bran, Barley-meal, the Flour of *French* Wheat, Oatmeal, Grains, or Raspings of Bread, &c. or alone, as with Acorns, Beech-maste, Horse-beans, Pease, Oats, or its Meal, broken Barley, or its Meal, *French* Wheat or its Meal, Pollard wetted with warm Water. But Pollard, Starch, Whey, Skim-milk, Meals, and several other soft Foods, are indeed wholesome, and make a luscious white Flesh, but produce a loose Meat, which easily parts with its Fat in the boiling Pot, while the Bean, Pea, and other Corn make a close Bacon, and stiff Pork. I knew a Miller, whose constant Practice was to feed his Hogs half Way with wetted Bran, and then fed them on with a fine Pollard worth fourteen Pence the single Bushel, till they fattened and weighed forty Stone a-piece, and though the Flesh of them was looser than the Corn-fed Hogs, yet, by mixing a sufficient Quantity of Saltpetre among common Salt, it very much improved it both in Colour and Firmness. But the Flesh of such Hogs always weighs heavier than that fattened with Corn, and is generally whiter and sweeter; and it is for this Reason, that the Vale Men seldom fat a Hog with their Beans, but will give it a Couple

ple of Bushels of fine Pollard at last, to take off any Rankness the Corn may leave.

Breeding of Pigs. Now you that have been such good Managers, as to have a Litter of Pigs last Month, may cheaply wean them in this, as being the prime Month in the Year for Whey, Skim-milk, and artificial and natural Grasses; and if to the Whey and Milk you add Pollard, or Bran, or Grains, it will make them grow faster; but nothing comes up to Kernel, for if a few Pease or Barley, or *French Wheat*, &c. is given them besides, it will make them grow to a good Stature, in half the Time as Whey or Skim milk alone will. By this early Breeding, the Pigs will thrive a-pace, and come in for their Share of Stubbling, which sometimes, in a Shedding Year, will half fat them for Porkers; or prepare them for Baconers, by the Help of Beech or Oak-mast, which sometimes succeed the Harvest, and near fats them, while those Pigs, that were farrowed near Winter, will grow stunted, lean, and scabby, and never make good Hogs. Thus a Summer-bred Hog may very well come in for a Baconer, by *Candlemas* or *Lady-day* at furthest.

To cure a Sow whose Wound gangers after Spaying. Mix Tar, Turpentine, and Hoglard together, and, while they are boiling-hot, pour it into the Wound. Hogs-flesh and Horse-flesh you cannot scald, or put any Liquor too hot into their Wounds.

Worms in Hogs, and how to keep them in Health, when they are obliged to drink putrefied Water in dry Summers. These voracious Insects are often found in the Intrails of Hogs, occasioned by foul Feeding, and Drinking of nasty Waters, which in Ponds, in dry Summers, are generally loaded with *animalcula*, that consequently poison the Blood of the Creature, and breed these Devourers. An Instance of this happened to a Barrow-Hog, that my Butcher bought

bought out of a Farm-Yard, for twelve Shillings, about five Years ago, which he kept on good Pease, in order to fat him; but finding it eat some one Day, and none another, and got but little Flesh, thought it best to kill him, and then he found a Cluster of large-headed long Worms in a Gut, a little distant from the Maw; a Misfortune, he told me, was very common among Hogs; but is what mine are never troubled with, nor with the Garget or Measles, since I have given them the Powder of Crude Antimony, among their Meat, to the Quantity of as much as will lie on a Shilling, twice or thrice a Week, to each Hog, either when he goes about the Yard, or while he is fatting; and which will also procure him a good Stomach to his Food: Or you may give him the Powder of Madder, the same Quantity, four Times a Week, and it will cleanse his Blood, keep him in Health, and cause him an Appetite. It is reported, that, if Hogs are foul and measlesd, four Stillers Wash will cure them; but this I distrust: However, this is true that many of our Farmers, this Year, 1741, gave the Lee of Ashes among their Meat, as the best Thing they knew to prevent the Garget, Measles, &c.

C H A P. X.

Of Sheep.

O *F the Rot of Sheep.* The great Rot, in 1735, began chiefly about *Midsummer*, and continued, till *May* following, so general, that many Thousands of Sheep, in low, and wet Grounds, died throughout *England*. The same I have to observe of the Summer 1738, which proved so wet, even from *April* to *November*, that it became almost as destructive

destructive a Rot as the other, with this Difference, that the Rot, in 1735, was a lean one, and this, in 1738, a fat one, because the former was sudden and violent, as the other was leisurely and slow. And though I have formerly made known a most famous antimonial Receipt to prevent the Rot, and even cure a Sheep that is but just touched with it, yet by Reason of the Difficulty there is of coming by the Regulus of Antimony, and the Dearness thereof, many have refused to try it : Since which I have been so happy, as to discover another that will infallibly answer the same Purpose, after much Study, Enquiry, and Traveling some Years.

An infallible Receipt to prevent the Rot. Put chopped Rue into a Pail of Water over Night, next Morning squeeze it out, and put in as much Salt into the same Liquor as will make an Egg swim : Of this give five Spoonfuls to a Sheep once in nine Days in the greatest Danger, in less, seldomer, according to Discretion, and let the Sheep go in the same Ground, be it ever so bad, and they will take no Harm ; you may depend on it.

Remarks on this Receipt. There is nothing, I believe in Husbandry, that meets with less Credulity of its Success, than a Remedy to prevent the Rot in Sheep, because there have been so many Compositions prescribed for it, that only answer their End in Part, or that be too chargeable, troublesome, or difficult to come at their Ingredients. And this has the rather happened, on account of the Diffidence that is natural to a Farmer, beyond most other Men, who having neither Time nor Money to expend in the Trial of new Projects, and being biassed by old Customs, the most of any People under the Heavens, are perfectly shy of new Inventions, though they appear ever so reasonable, for Fear of Imposition. Therefore the aforesaid Receipt was calculated for their plain Apprehension, Cheapness
of

of Ingredients, and Easiness of coming by, which, if any Thing will tempt to a Trial, this must; and then they will surely find the promised Success, which may be readily proved, by singling out two or three Sheep only, that a Shepherd is seldom at a Loss to know, before they come to an absolute Rot, and then let their Case prove the Thing: Till then, let every one suspend their Judgment, and regard the following Account.

In the great Rot that happened to Sheep in 1735, there were two Farmers who rented five hundred Pounds each a Year, and kept three hundred Sheep a-piece. Now both these had a considerable Part of their Grazing-Ground lay at the Foot of a spewy Hill, adjoining to a River. Both said they knew a Remedy to prevent it in the worst of Ground, and therefore did not fear it; the Consequence was that he, that made Use of my Receipt, saved all his Flock perfectly sound, the others all rotted and died, and so did all others about them. The Truth of which is ready to be attested, and if any think fit to enquire of both Farmers of the same, they may know where they live, on Application to me. If then the rest of *Great-Britain* and *Ireland* meet with the same Benefit, I hope they will do me that Justice, in Requital, as to send me authentic Accounts of the same, by Letter Post-paid, directed for Mr. *William Ellis*, to be left at Mr. *Osborne's* Bookseller, in *Gray's-Inn, London*. That I may hope for some Gratification from the Public, for openly making known so inestimable and plain a Remedy, that must be worth an hundred Pounds, even to some single Vale Farmers, who keep large Flocks, and seldom escape a Rot once in three Years; but, to the Nations in general, of immense Value. Good God! tho' Man, through Inconsideration, call many of thy Works mean, yet what Food do the meanest of them yield to Multitudes of
thy

thy Creatures ! Surely it was a wise Thought of the great and learned Lord Bacon : *Whatever God thinks worthy of Essence, Man should think worthy of Science.*

The Cause of the Red-water. The Rot and the Red-water are certainly the two most universal and most fatal Distempers belonging to a Sheep ; and therefore I shall offer to your Consideration the following Reasons, how the Red-water is first bred, in order to prevent it ; and, if taken, some choice Receipts to cure it. In the West of *England*, they allow it to be bred by Change of Pasture, by the Worrying of a Dog, by the Ewe's being beat down and bruised by a Ram, by Driving too far at a Time, and by the Inclemency of the Weather. Others are of Opinion, it commences by a certain Bladder of Water under the Tip of the Heart, which scalds and damages it in Time, and thereby spoils the whole Mass of Blood. To break this Bladder, they chace the Sheep every Morning, with the Dog, about the Fold or Pen, which makes them strain ; and so does the Fear. The Eye of a Sheep, that is near overcome with the Red-water, will appear red round the Inside ; the Belly will swag with Water, if tried ; and the Skin look of a reddish Colour : Therefore, as a Sheep's Blood, at this Time, is mostly Water, some are of Opinion, that Bleeding, in this Case, is Death. On which Account, the following Receipts were invented to supply it.

The Warwickshire Way of curing the Red-water. The Cure here is, to put as much Salt in half a Pint of Spring-water, as will make it of an urinal Taste ; and, when all is dissolved, they give it in a Horn to a Sheep, as soon as ever they find it begin to droop, which it commonly does a little before they die.

A second, third, and fourth Way. Give such a
Sheep

Sheep half a Pint of warm Milk from the Cow, and it will vomit the Sheep; and so will the salt Water; and therein consists the Cure, as they say. Others will give a little Flour of Brimstone, mixed with Urine. Others, beaten Grains of Paradise, mixed with Treacle.

To cure Sheep-hove in Clover, or Lucern, &c. In this Month is the chief Danger of the whole Year for hoving Sheep in Clover; therefore have a Remedy ready, because, by an expeditious Application of such, many have been saved. For, whether this Misfortune happens in Clover, Lucern, or by a fresh Bite of Turnep-leaves, especially on their second Sprouting, make Use of the following Medicine: In this Month, or next, gather Plantain-leaves, and boil them in Spring-water; which strain, and bottle up for Use. When there is Occasion, give four Spoonfuls to a Sheep, mixed at the same Time with a little Vinegar; and also just cut the Roof of the Mouth, rubbing a little Salt on the same: This is practised by one of our best Shepherds.

A second. Open the Vein, that runs down from the Eye of the Sheep.

A third. But, if the Case is desperate, then job a Penknife a little Way into the Paunch of the Sheep, between the Huckle-bone and the short Rib, and clap a Pitch-plaister on the Wound; or, if you apply nothing, it may do well.

Drying Ewes. When a Lamb is taken off an Ewe, for Sale or Weaning, and you have a Mind to dry the Ewe, rub her Bag with some of her Milk; then mix Oil of Turpentine with some Tar, and anoint her Udder with it: But, I should have said, let her first be milked by the Hand, at twenty-four Hours End, and then immediately use the Ointment, which will directly turn her Milk, and thereby prevent Damage; but, if you neglect some

Remedy, it is a Chance if it do not garget. This same Mixture I use myself, and it is so powerful a Remedy in this Case, that it will answer, if applied to Mares, or any other Beast, for the like Reason.

Baiting Sheep. Now the Grass on Commons springs a-pace, and, generally, affords a good Bite; but, where a Common is not flinted, or the Number of Sheep limited, they are then apt to keep it always bare, and many Times obliged to go to Fold with half a Belliful, and then the Hunger, Rot, or other Misfortunes often ensue. For which Reason, a good Husbandman, who has inclosed Fields near a Common, will always be provided with Clover, or other artificial Grass, ready for supplying this Defect; and in this Month, after the Sheep have fed till about One or Two o'Clock, will take them off the Common, and *bait* them (as we call it) on such Grass, till they be drove to the Fold; by which Means they will dung and stale a great Quantity, always keep half fat, and be better enabled to withstand Distress; and for which Purpose I commonly sow Clover, or Thetches.

To make Ewes take Ram. In my next Monthly Book, I shall give you an Account how to suckle House-lambs, and supply the Markets all the Year with them, by three several efficacious Receipts, whose Ingredients will oblige the Ewes to take Ram at any Time.

To have fat Sheep and Beef at Harvest. The very Beginning of this Month, single out some of your old broken-mouthed Ewes, or Wethers, and put them into your Clover-field; or, if you have not this Conveniency, put them into your fallow Fields to fat against Harvest to serve your Reapers. This is a good Piece of Husbandry; for Beef, and all Meat, is generally sold dearer then, than at other Times; and, as the Men work hardest at that Time, they are in Course most hungry, and will with Pleasure
eat

eat fat Mutton, in any Shape of Dressing, especially in Pyes, in which this Meat, well seasoned, will keep some Time. It is likewise the Practice of some Farmers to fat a dry Cow for the same Purpose; and, if he cannot dispense with the whole Beast, a Neighbour will gladly come in for a cheap Share. In the dear Month of *May*, 1741, when fat Beef was so scarce it could be hardly got for Money, and it sold in *London* for Eight-pence a Pound, some Farmers bought Bulls, or old Cows, to fat thus against Harvest, lest they should be obliged to get further into the Butcher's Books, than they can out. I fatted three Ewes and a large Sow against Harvest, that did me great Service, in keeping off the extravagant Price of Butchers Meat.

Of Shearing Sheep. The latter Part of this Month, by some, is chosen for Washing and Shearing their Sheep; which is rather too early, and therefore seldom done, but on necessitous Accounts, as when fat Sheep are to be driven to *London*, or elsewhere on long Journies; for, if their heavy Coats of Wool were to remain on at this Time of Year, by long Driving in sultry Weather, it likely might bring them under Surfeits, and kill many of them. Others will shear their fat Sheep, while they feed in their Meadows, as believing they will thrive the faster for it; for they can more boldly shear a fat Sheep than a lean one, because their being fleshy and in good Heart makes them able to resist those Wets and cold Winds, that would kill poor Sheep.

C H A P. XI.

Miscellaneous Matters in Husbandry, for the Month of May.

HOUGHING Beans and Pease. Now hough your Horse-beans and Field-pease, that were set and sowed in Ridge-lands, as many are between *Harrow* and *Acton*. The Beans in Rows at about eighteen Inches asunder, and at two Inches and a half Distance each Bean, were set by a small Dibber, that is made to enter the Ground so far and no farther, cross the Ridge-lands. Their Pease also they sow in Drills, made cross the Ridge-lands with a Hand-hough, at two or three Feet a-part, which are likewise to be houghed in this Month. Others set their Horse-beans, as above, in Broad-lands, as many are in their dry gravelly Loams between *Hempstead* and *Watford*, on one plowing up a Wheat or Barley-stubble. Some, again, will set them in this Manner, on new broken up Sward-ground, on one Plowing, to great Advantage; for, by this Method, the Roots of Beans and Pease are best shaded, and the Charge of Setting defrayed by the Seed that is saved. But no Way of Houghing comes up to the Horse-break, where it can be used, which, in this Month, is to be drawn between Rows of of either the Broad, or Horse-bean, or Field-pease, or Kidney-bean; and then a Hand-hough immediately follows, to pull up the Mould closer to the Bean or Pea-roots, &c. than the Horse-break could. But, where these Operations are not performed, I know a Farmer, that makes Use of the common Foot-plough, who draws it between the Rows of the Union-blue, or Rouncival Grey-pea, which he sowed in Drills, at something above two Feet

Feet asunder, and it turned up the Mould on the Roots of each Row pretty well, but not so well as the double-breasted Foot-plough ; then, as above, he made Use of the Hand-hough to perfect the rest.

Houghing with the Dutch Hough. But, besides supplying Houghing by one or other Sort of the Horse-breaks, now is the Month also to make Use of the Hand *Dutch* Hough, for its great Service in dispatching and cleaning a great deal of Ground, in a little Time, of Weeds, and keeping it fine and hollow. The Purpose of this Instrument is, to work between those Rows, or Drills of Wheat, Rye, Barley, Oats, Tares, Lentils, &c. when any of them are sown at ten, fourteen, or this Side twenty Inches Distance ; for the Horse-break has not Room to be drawn between such narrow Rows. I know a Farmer that twice a Year employs no less than eight of this Sort of Houghs, to his great Advantage ; and sows such Wheat, Rye, Barley, Oats, Tares, Lentils, &c. by the Three-wheel Drill-plough, and sows them closer, than he does Beans or Pease, on Purpose for Houghing between their Rows with these Hand-houghs.

The Benefit of houghing Beans. The Benefit of Houghing was more apparently seen this Year, than in many others, because the long, cold, dry Spring, and dry Summer, 1741, caused the Blossoms to dry and fall off, for Want of sufficient Moisture, and even killed many a Bean-stalk, after it had got Pods on. About *Pinner*, near *Harrow* in *Middlesex*, they were more than ordinary sensible of this. Those Horse-beans, that were drilled and houghed, were good Crops in general ; but those, that were plowed in, or harrowed in, were, for the most Part, as bad. Here they sowed their Horse-beans in Drills, at two Feet asunder, which were houghed twice in all, for four Shillings an Acre ;

cre ; and one Man, in this Work, would hough over an Acre in one Day, for which he had two Shillings ; and the same, when he houghed them a second Time : However, by one Fault is known how to prevent another ; and they are now resolved to sow all their Beans in Drills, for the Future.

Of blooming Wheat. The Winter, 1733, was so mild, that Wheat grew all along very rank and long, till it shot into a small Ear, as it always does in this Condition : The same, when Wheat looks whey-coloured, or yellow-flagged, as it did all *May*, and till it shot, and after. Then it is a true Sign it will be small-eared ; and this last Sign being occasioned by Wets and Cold, as it happened all that *May*, and till about the Fourth of *June*, it was so ominous of a bad Blooming-time, that the Farmers would wager before-hand, the Wheat did not bloom well ; and it accordingly happened ; for the Bloom came out but slow, and in a small Quantity, and that was several Times washed off, which was a sure Token the Wheat-ear would not kern well, nor did it : Whereas, the Year before, the Bloom came on the Ear, as soon almost as the Flag burst, and was very thick on it, which brought on a plentiful Crop ; for, unless Wheat blooms well, it cannot kern well. In 1741, there was as fine a Bloom as ever was seen, from the first to the last, and, accordingly, a most plentiful Crop ensued ; which caused the Market to fall ten Shillings in five Bushels, in about one Month's Time, just before Harvest.

How a Barley-crop suffered by the Ignorance of a Ploughman. A Crop of Barley was sown in *March*, 1740-1, where a Turnep crop had been just before eaten off a stiffish, moist, level Loam. As soon as the Ground was cleared of the Turneps, the Farmer laid fourteen Cart-loads of Dung on one Acre, which was spread, and ploughed in with the *Hertfordshire*

fordshire Wheel Fallow-plough; then he harrowed all plain, and sowed and harrowed in his Barley. Now here was such a Mistake committed, as lost half the Crop; for the Ploughman, being a young Novice in the Art, ploughed the Sheep and Horse-dung in so deep, that the Roots of the Barley had little or no Benefit of them, because this stiff Ground turned up in large heavy Furrows, and easily buried the Dressing; so that, at the latter End of this Month, the Barley looked with such a sick, pale Countenance, as foretold there would not be above half a Crop, for Want of that Assistance, which a skilful Ploughman would have given it, by ploughing in the Dung more shallow. Or, if he had first hacked the Ground, then harrowed it plain, lain on his Dung, plowed it in shallow in Broad-lands, and then harrowed in his Barley, it might fully have answered the End; because the Ground, by this, would have been made fine and hollow, and the Dressing kept near enough the Surface, for the Roots of the Barley to strike easily into. Or if he had ploughed it the first Time shallow into Broad-lands, then harrowed, dunged, and ploughed it a second Time a little deeper, he would have turned up the Dung near the Top, and greatly improved the Crop: Though the most common Way is, to give such Ground only one Plowing, and harrow in the Barley-feed; then they spread their short rotten Dung on the Top, or fold on it, or lay twenty Bushels of Soot over each Acre; and, if Rain succeeds in Time, it commonly produces six, seven, or eight Quarters of Barley on an Acre.

A Barley-Crop lost by Sowing Mow-burned Seed.

An old Farmer near me committed this Mistake; rather than to buy good Seed, he made use of his own Mow-burned Barley-Seed, and sowed it in *March* all over a Nine-Acre Field whose Soil was a loamy Chalk; but, finding it, in *May* 1741, come up with
a very

a very weak Blade, foresaw it would prove a defective Crop, which to cure, he first turned his Store-Sheep in to eat it up, and, about the Eleventh of this Month, he was plowing the same, to sow it over again with better Seed. — Happy is he, who, by others Harm, learns to beware.

A poor Barley and Wheat Crop. By the great Frost of 1739, the Ground was made prodigious hollow, infomuch that one Plowing, afterwards, did as much Good as two or three at other Times; and though a great deal of Land received the Benefit of being thus easily brought into a fine Tilth, yet it proved a Fault in many others; for it let in the Frost to the succeeding Crops of Wheat, and, where the Ground was not well manured with hot Dressing, the Crop suffered. On the Fourteenth of July 1741, I saw a Crop of Wheat and Barley grow together. The Reason was, that the Frost, getting into the Ground, so chilled the Roots of the Wheat, that the Owner thought to prevent its Damage by harrowing Barley-Seed in over all the Ground; but there proved neither a good Crop of Wheat nor Barley, because, the Earth being of the hurlucky Nature, or of a close whitish Loam, it was too hard to let in and cover Barley-seed enough for a Crop. Yet the very same Practice succeeded extremely well in many of the ridge half Acre Vale Lands the Spring before this, because this, being a black Mould, was so much shattered and loosened by the great Frost, as to let the Barley-Seed be freely harrowed in and covered; whereby an excellent Crop of Barley, with a Mixture of Wheat, was mowed off. But I remember one silly Gentleman lost a great deal by obliging his Servants to tread down the Barley to come at and reap the Wheat, and then to mow the Barley, whereas, had he mowed all together, he had acted like a true Farmer.

A Field of Wheat weeded by Sheep. In our Chil-
turn

turn Country, a Farmer having a Three-acre Field of Wheat come up very well on the ridge Part of two-bout Stitches, and not in the Thoroughs, the Weeds grew so thick, that almost choaked the Wheat. Upon this, the Farmer turned in sixty Sheep in this Month, even when the Wheat was upon the Spindle, and had not shot into Ear; the Sheep took their Paths along the Thoroughs, like so many discreet Weeders, and missed biting the Wheat for the Sake of the Weeds; by which they so cleared the Field, that he had a better Crop than his Neighbours, who, before this happened, were like to out-do him. — But this was a bold Venture, and such that few would run the Risque of, did not Necessity prove the Incentive.

The Benefit of dressing Land with Urine. This is allowed to be one of the best of Dressings for most Vegetables, if made use of at a right Time, and in a right Quantity. A Farmer found it so, when he used it so late as in this Month on his Wheat, which he sprinkled out of a Garden Watering-pot, over his Wheat, as it grew in two-bout Stitches; and for this, and other Purposes, he saved it in a Barrel which he used to carry into the Field in a Cart, and there drew it out into his tin Watering-pot. But another Farmer had a better Contrivance; he kept his Chamberlie in a great Oil Jar, that is to be bought at the Oil-Shops in *London*, for about four Shillings a-piece; when it was full, he put the Piss into a Barrel in a Cart, and, in *January, February, March, April, or May*, would let it out into a wooden long Trough, bored full of little Holes, that lay across the Arse of the Cart, by which the Piss would run gradually out over a great deal of Wheat in a little Time; and it was observed, that this Farmer had the best Wheat in the Country on his chalky Loams, near *Tring* in *Hertfordshire*. Another Trial was made by a Groom,
X who,

who, by Way of Curiosity, had a Mind to try the Effect of Horse-piss, and therefore sprinkled it over some Wheat but once, that grew in two-bout Stitches near *Nettleden*, which caused it to come on so rank that they were forced to cut it down several Times, and at last it run so much into Straw, that there was hardly any Corn. Another Trial was made with Chamberlie, by a Gentleman, who strewed it over the Roots of a Wall-Fruit Tree to make it prolific, but instead of that it killed it; however, Part of the next Tree's extreme Roots having received some of the Piss, it caused it to flourish in a furious Manner, and bear more Fruit, than ever it did before. Another Proof of the good Effect of this was annually experienced by a Gardener, who, having but a little Spot of Ground, enjoyed the greatest Crops of Kitchen-Greens in all the Country about him, by the Help of Piss, which was his only Dressing; and which he every Year saved and sprinkled over all his Land, and it caused his Onions, in particular, to come early, and grow into very large Roots. Another Effect of Piss was on the Roots of a Vine, which growing at the Back-Door of an Ale-house, the Guests used to piss on the same, which produced such a Multitude of large Bunches of Grapes, that the like was seen no where else in the neighbouring Parts. But, by the Way, let me give this Item in the Use of Piss, that it is best made Use of when the Wheat has got a little Head, because, if it should burn the Roots, the Shade of its Head will help to recover them. In Grass Grounds, it should be sprinkled in *January* and *February*.

The great Benefit of dressing Ground with Dogs-Dung. At the Sign of the *Bell* at *Dagnal* in *Bedfordshire*, lives a Victualler, who owns about one Acre of Ground near his House in a common Field, whose Soil being a gravelly Loam, it has been sown
Time

Time out of Mind every Year, without making it fallow, as the rest of the Farmers do in the same Field, and so lose every third Year's Crop, which this Man enjoys by inclosing his Piece of Ground with moveable Hurdles, and dressing the same with Dogs-Dung, which is accounted the next best Dressing to Pigeons-Dung; and as he breaks Setting-dogs, and is a Game-keeper, he keeps such a Number of these Animals, as return him a considerable Quantity of this Dung every Year, which enables him to sow Horse-beans, Wheat, Barley, and Pease alternately: And this Year, 1741, he had one of the best Crops of Wheat, that succeeded his last Year's Bean-Crop. And what was very particular; when most Bean-Crops missed throughout the Nation in 1740, he had a most plentiful one on this dry gravelly Soil, and which I was an Eye-witness of. And thus I know a Gentleman, who keeps a large Pack of Hounds, have the greatest Crops of Grain, wherever he spreads their Dung.

Of the new invented round Wire-Worm Sieve. This is a very curious Machine lately invented, and is very much to the Honour of the ingenious Artist, whose Name I forbear to mention, as having no Leave for the same. It is about nine Feet long, large at one End, and smaller at the other, worked by two Men, one of which is employed by turning it with a Winch, or Handle, like a Grind-stone, and, while it is turning round, it is constantly supplied with more Corn out of a Loft by a Spout, which, by Means of this Worm-fashioned roundish Wire Screen, runs out in a fine clean Manner, leaving all, or most of the Seeds of Weeds, and light offal Kernels behind; and this it will not only perform exquisitely fine and bright by the Twist of its long Worm Shape, but it will likewise dispatch great Quantities in a little Time, to the more than ordinary Benefit of the Farmer; for, let his Wheat, or other Grain, be

ever so good, yet every Husbandman knows, that if any Burrs, Crow-Needles, Cockle, Darnel, or other Trumpery, is mixed with it, it will meet with a Price accordingly at Market: However, it is too common a Misfortune, and which a Farmer is the more liable too, as he generally changes his Servants every Year; so that, if he had a good one this, he may have a bad one next, who knows not how rightly to use a Knee-fan, or Wind-fan, to throw Corn, or to sieve or clean it by the tall, standing, sloping Wire-screen; or who, through Laziness, will not fan it nor throw it, or sieve, or screen it often enough. All which ill Properties are here avoided; for this Screen alone, after the Corn has passed through the Cavin-sieve, and flung out of its Chaff, will so truly clean it, as to make it fit for the nicest Buyer. In short, here is more Labour saved, a great deal more done in a Day, with less Charge, and much cleaner, than Corn is done in the present common Way. The Reason of which is plainly demonstrated on Sight of its Working, when the Beholder may observe the Corn passing through the several Turnings and Worm-twinings of this round Wire-screen; in which, if the Seeds of Weeds, and light underline Corn, miss dropping through in one Part or Twining, they are forced through the next, or some other, before they get to the Screen's End. I have only to add, that this Screen will likewise, by its several violent Turnings and Tossings of Barley, exquisitely well break off the Ails of this Corn, beyond Treading and Thrashing it, which, according to the old Fashion, we are forced to do, before we can clean it of its Nuisance. This, therefore, is to give Notice, that I will furnish any Person with it, if, by a Letter, Post-paid, directed for me to be left at Mr. Osborne's, Bookseller, in Gray's-Inn, they will send me Encouragement for the same.

A farther Account of Peat-Ashes. To what I have before wrote (at Page 68) on Peat-Ashes, I add, that between *Hempstead* and *Watford* in *Hertfordshire*, about the Year 1738, a low Meadow, that lies contiguous to the River's Side, was broke up, and a most excellent Peat discovered, not inferior (as is reported) to that of *Newbury* in *Berkshire*, because eight Bushels of these, which are equal to twelve common *Winchester* Bushels, are sufficient to manure one Acre of Corn-ground with; and all that Quantity costs but five Shillings and four Pence at eight Pence a Bushel, and it is said to do as much Service as twenty Bushels of Soot. A cheap Dressing indeed, thus to return great Crops, if the Season is kind, both of Corn and Grass, besides preventing the Damage of Insects. But I shall say no more of it, here, by Reason I shall give a long Detail of its great Virtues and Benefits to Farmers and Gardeners, in the Month of *July*; where I shall insert the Copy of a Letter, written to me by the Proprietor, setting forth Examples of its transcendent Qualities, for now the Mask is taken off it, which for some Years past has kept the Cheapness and Value of Peat-ashes in Disguise, for avaricious Ends.

To destroy the Potatoes as a Weed. Though this be a most useful Plant, yet when Wheat, or other Corn, succeeds a Crop of them, as is often done, they will rot the Weed, and damage much Corn, if they were not totally destroyed before its Sowing, which is hard to do; however, what was wanting then, may in a great Measure be supplied now, by the Weed-hook, which, if carefully employed, will kill them, for, if they are pretty high in their Haulm, they will bleed on Cutting, and die.

Dressing Land with old Thatch. This a Farmer did with what came off an old Barn, by spreading it over a gravelly loamy Field, immediately after he had fallowed it in Broad-Lands, where it did a great

great deal of Good, by keeping in the Spirit of the Ground; afterwards he plowed it in on the first Stirre in Broad-lands again, and so on till he sowed the same Land with Wheat, for, tho' this is a tough Dressing at first, yet, by the short Nature of the Gravel, it will be soon reduced into a much shorter Body, and do considerable Service to the Wheat-Crop.

The Scarcity of Provision in 1740. The last Winter, 1740, and this Spring, 1741, in *Cheshire*, Hay was sold for Half-a-Guinea a hundred Weight; and as this County has not a great deal of plowed Land, Stover was so scarce, that five or six Cows have been seen to lie dead in a Farm-yard in a Morning. And Wheat, in *January*, was sold for twelve Shillings a Bushel, and Barley eight, so that the poor People, in many Places, would diligently attend a Neighbour's Brewing for the Grains to eat with Salt, which Poverty occasioned the Death of many. So in *Wales*, and *Devonshire*, &c. great Numbers of Horses, Cows, and other Cattle died for Want. The same Reason made Horses sell at a most low Rate in the North, and forced many Farmers, that never did before, to eat Barley-Bread, to sell the little Wheat they had, to pay their Rent; while some others, whose Land was of the stiff Sort, and lay sheltered from the North-Wind, got Abundance of Money. Yet Providence was so good, that on the twenty-third of *July*, 1741, Wheat, of the best old Sort, was sold in *Hempstead* Market, for four Shillings and six Pence a Bushel.

To prepare human Ordure for dressing Land. For Want of knowing how to manage this hot Dressing, it has discouraged many from using it on this Account; therefore, I shall here make known a Gentleman's Method in the Improvement of it. I think it was, in this Month, he had his House-of-Office emptied, and the Soil carried into a Hovel-place,
to

to remain under Cover in a Heap, which as soon as done, he had it all covered with Mould, where it lay some Time, till the Dung got dry. Then he got more Mould, and Chalk, or Lime, and had it mixed altogether with the Shovel, and let it lie some Time, when he had it turned and mixed again, and, by this, he got it into a dry and almost powdered Body, fit to sow out of a Seed-cot; and, accordingly, he had it sowed over his Wheat in the Month of *January*, by a Man's Hand, as we do Soot out of a Seed-cot and it produced wonderful Crops. By this Method, the common Objection, that human Ordure, laid on Land, will breed Nettles, is proved fallacious, when it is laid on as it ought to be: Indeed, when it is put thick on Land as it comes out of the Sink, and no more done to it, I own it is apt to do it: But, when cured after this Example, it is one of the best of Dressings, both for Corn, as well as Grass-ground. But in Case there is a Necessity for using this most fertile Dressing on Grass-land, and the Owner has not Time to cure it, it may be done thus: A Farmer, in this Month, got it out of his Privy-house, by first mixing Straw with it, and then it would admit of shoveling and loading it into a Cart, which he drew into his Field, and laid it in Heaps; then with Three-tin Forks he spread it about, and let it lie till it was thoroughly dried. On this, he had a Gate bushed, which he drew with a Horse, and it so scratched about the powdered Dung, as to make it enter into the Roots of the Grass, which, by the Help of several succeeding Showers of Rain, produced a laid Crop in the Summer 1741. And it is this Dung, that is so much esteemed by Gardeners, that many of them prefer it to all others, for nourishing an Onion-Crop; and which, they say, makes the largest Roots of any Dung whatsoever. So, on Grass-ground, it produces the excellent Honey-Suckle

Suckle Grass, which it will nourish and maintain several Years together, in plentiful Crops, as I have experienced.

A secure Way to get a good Crop of Clover-Seed.
About the very Beginning of this Month, shut up that Clover Field that you have been feeding, and design for Seed; for, by so doing, you may have your Clover-feed earlier than in the common Way, which will give you the better Opportunity to enjoy a large Seed, and get it in full ripe and dry: Whereas, if you stay till it is fit to mow for Hay, before you shut up the Field, the seedy Head of the Clover is generally so late ripe, that the Crop is often spoiled by Rains, or cannot be got dry, for Want of Heat enough in long Days. And indeed, this was the chief Reason, why so little Clover-feed could be got found in the Year 1739; for, when the Clover was to be mowed for Seed, a wet Season continued so long, that most of it was sprouted and spoiled in the Field; insomuch that good Clover-feed has remained dear ever since; and all, because they must needs go on in the old Way of mowing their Clover first for Hay, before they shut it up for Seed. I have convinced several of this egregious Error by Word of Mouth, but I hope I shall many more, by the Help of my public Pen, and, most of all, those who are to save their Crop of Clover-feed in inclosed Fields; because here they have not that Opportunity of getting it dry, so late in Summer as *September*, as they have, who mow it in open Fields, as most do in the West Country, from whence *London* is supplied with great Quantities of this Seed, which, for its great Service to the Farmer, is called *the Mother of Corn*; and therefore, without sowing this best of artificial Grass-feed, there is no such Thing as being a compleat Farmer in the Management of an inclosed

inclosed Farm, where its Fields are kept under the Plough.

The Two-wheel Wood-chip Plough. This Plough, as I have not mentioned it before, I have thought it necessary to do it here, for its great Usefulness in ploughing wet or dry Ground in three or four Boutlands ; which it does the best of all others, because it has but one Mortise in the Share ; and therefore is called by some the *Creeper-plough*, that does not gather up Dirt, and clog behind, like our Two-wheel *Hertfordshire* Plough ; but works extreme well in all Weathers, when a Plough can be used, and is allowed to be the best for ploughing Land in three and four Bouts, which they do about *Pinnar*, *Rickmansworth*, *Chaffont*, and some other few Places ; for this excellent Plough is not much known at present, and therefore not in much Use ; but I would recommend it, as the best of Ploughs for this Sort of Work, for, if a Plough may be said to be serviceable both in Low and High-lands, this is that.

C H A P. XII.

Of Turneps ; a farther Account of them

I N this Month, some of our Farmers sow Turneps for an early Crop ; some sow them to draw and sell ; others, that they may be able to fat off some of their Sheep betimes, and, by the same, prepare their Ground for Sowing Wheat, which, by such early Sowing and Feeding, is often made to turn to a very good Account ; but then the Management must be accordingly. Now, to do this effectually, such Ground ought to be in great Heart to forward the Turnep-crop with Expedition, that such Turneps may be eaten off by *Albals-*
Y
lows-tide,

lows-tide, or sooner, and the same Ground sowed with that Golden Grain, Wheat: And, for this Purpose, it was the usual Practice of a Farmer near *Amersham*, to sow in this Month the Seed of the *Dutch* white flat Turnep, that, in favourable Seasons, would be fit to make Use of in *July*, *August*, or *September*. The next Sort, he sowed, was the Green Round; then the White Round; next the Red Round; and, last of all, the Tankard, or Sugar-loaf Turnep-feed, whose Turnep grows with great Part of their Roots above-ground; and therefore, in *Decemben*, *January*, *February*, or *March*, the Sheep can easily come at them in snowy Seasons, In this Month, four Pounds of Turnep-feed should be sown on one Acre; because the Fly, being now as busy as at any Time, and having less Food, preys more furiously, than in the latter Season; for at *Midsummer* we sow a Pound less on that Quantity of Ground, and afterwards but two. If the Ground is hard, give your Harrows the Load of a large Pole; but, if fine, you cannot harrow the Seed in with too light a Harrow. A Farmer not being able to get Houghers in due Time, he, to prevent the Crop Setting, or, what we call, *Burning*, drew his Harrows over them three Times in a Month, with ten Days Intermission between each Time, and by this preserved his Crop in good Order, till he got Houghers. But this is better done by the Sheim, which is a triangular Instrument with several fixed iron Feet, or Houghs, in the same, as I shall describe hereafter. Turneps, tho' sown thick, never set sooner than three Weeks, but, after that Time, they will heat, and force one another to grow; and then, if they are let alone, will set, and have little or no Roots to any Advantage. But more of this in next Month; where I shall very much enlarge on the Propagation of this excellent Root, by giving the following Account of it, *viz.*

—Plough—

—Ploughing for a Crop of Turneps. A second Way. A third Way. A fourth Way. Ploughing a wet Dung Piece of Ground the best Way, for a Crop of Turneps. Turneps got on a Fallow. An Oat-stubble ploughed for Turneps. A Pea-stubble ploughed for Turneps. Another Way. To prepare a Bean-stubble for Turneps. Plowing and Sowing Turnep-seed in Vale-grounds. Plowing and Sowing Turnep-seed in three or four Bout-lands. Sowing Turnep-seed in Drills. Sorts of Turneps, and their proper Soils. Of good and bad Turnep-seed. To prove the Goodness of Turnep-seed. Sowing Turnep-seeds. Houghing Turneps. The Way of saving a Crop of Turnep-seed. The Way of cleaning Turnep-seed. The Benefit of my Receipt for keeping off Crows, Rooks, and other Birds, from damaging the Turnep-seed Crop. Another Way to save a Crop of Turnep-seed. Ploughing up a Pea-stubble, for Sowing Turneps a third Way. And, in July, I shall present the World with an excellent Receipt for preventing the Fly's damaging young seedling Turneps, by a Powder mixed with the Seed three Days before Sowing, for Two-Pence an Acre Charge, as it is practised by some Farmers and Gardeners. And, in another Month, I shall insert an invaluable Receipt to keep off the Slug and Fly from Turneps, Cole, Weld, and many other Things; and that if it rains a Month together; for it is no Powder, and which even the Gardeners about London are, at this Time, Strangers to.

C H A P. XIII.

Of Making and Ripairing Roads.

TH E present Turnpike Improvement of Roads, when it is honestly managed with good Judgment, is certainly of prodigious Service to this Na-

tion in general, by contracting great Quantities of Heath, Donny, and other common Grounds, into a narrow Compass; saving Horse-flesh, Time, and Labour; travelling securely with Wheel-carriages; stopping stray Cattle, and, sometimes, a High-way Collector, with many other Conveniencies; most of which were enjoyed to great Advantage in the several Vales of *England*, where before, in some Winter-seasons, their Roads were formerly so bad, as even to prevent the Farmer's Carrying his Corn to an advantageous Market.

First Way to mend Roads. All Market-roads are to be kept in good Repair; and, to do this in the cheapest and best Manner, there are several Ways practised, according as the adjacent Country can furnish proper Materials. About a Mile from me, there were two different Roads made good, that, before, were in a very bad Condition, as being both of a loamy, clayey Nature, and lay almost flat; which, by standing Waters, and the often Tread of Cattle, became deep and miry: These Roads were undertaken to be repaired in this Month, that they might have the greatest Length of the Summer to dry and settle them. To this Purpose, there were several Teams invited (mine for one) from adjoining Parishes, by Way of Gift; some whereof came with their pecked shared Foot-ploughs, others with Wheel-ploughs; and began, in the Middle of the Road, to plow and ridge up one Thorough, or Furrow, as they do the half-acre Vale Ridge-lands; and here one Plough came after another, till the Ground was gathered up six or eight Times, whereby the highest Part was raised, at least, two Feet above the common Level of the Earth, for Waggon and other Carriages to travel dry in the wettest Times. But, as this had no other Amendment, than what the Plough gave, it did not last a great while in a good Condition.

A second

A second Way. The other Road was made thus : The Ground was ploughed in the Manner the last was, by being gradually gathered, or ridged up, but most of all in the middle Part of the Road, to a little more than the Breadth of a Waggon. On this, a Foundation of large Flint-stones was spread all over the same, and Chalk over all ; by which the highest Part was raised two Feet above the common Level of the Ground : And, after some Rains had fell, the Horses and Waggon pressed it so tight, that it became like a Rock, but apt to be slippery in wet Weather : This was performed at the Charge of the Lord of the Mannor.

A third Way. Where a Road lies low, has any thing of a Fall with it, and a Water out of a Pond or River can be commanded to be ran over it ; such a Road, when got muddy, may be presently washed clean by the Run of such Water ; and so again, as often as it becomes foul, as it is now done in several Parts of *England*, where such a low hollow Road is kept with a sound, hard, clean Bottom, by only such timely Waterings. A clear Example of this may be seen a Mile or two off *Dorking* in *Surrey*, where formerly was one of the worst Roads in that Part of the County, but now one of the best ; made so by the Help of an Engine, placed in a little House built on Purpose for it, which raises Water out of a low Ground, and carries it over this Road.

A fourth Way, is done by ploughing up the Ground into a very high Ridge-land, and then laying on a Covering of Chalk, and on that, a Coat of Gravel, which will become one of the best Roads, provided the Waters do not overflow it too soon : if they do, it will be poachy a long Time after. But, for a bye, narrow, high-ridge Road, I never saw a better than that gravelly one, situated between *Hendon-Church* and *Edgware* in *Middlesex*,
and

and runs about three Miles in Length, on the Back of the great *London Road*.

A fifth Way. In low boggy Grounds, that lie very watery, where they can't be drained off, lay large Faggots of Bush, or Elm, one Layer of them cross another, and, if Occasion be, three, or more Feet high; and then with, or without, some Earth over all, coverall again with large Stones cross each other, two Feet thick, that have one Side pretty even: Then with, or without some Gravel over them, a good Road may be made, as it is lately done between *Aylesbury* and *Winslow*, in *Bucks*, where their sloughy Roads are now made very pleasant ones. Small Faggots of Bush, or other Wood, or Broom, or Whins, or even Bundles of Bean-straw, are the most ready Amendment, that can be made Use of, with, or without, Gravel over them; but Stones over them are best, in Case of sudden Damage, which often happens in Winter, by the Wash of Rains and the Gulling of Wheels; I say, these may be made very serviceable, by laying them cross a Rut, till better Materials can be had; but, if Faggots be laid long-ways, they do little Good. In short, where a Road lies wide and free of the Drip of Trees, it may be kept in good Repair, with Stones, Gravel, Chalk, Water, &c. at a small Charge: But where these Impediments are, the Owner, it is true, enjoys a quicker Growth, than ordinary, of his Trees, but, I am sure, it is almost a constant Damage to High-ways, where they are narrow; therefore it is a Pity there is not a Law to restrain their Growth so near High-ways. Likewise, where Hedges are suffered to stand twelve, fifteen, or twenty Years, for the Sake of obtaining a great deal of Wood, they do much Damage, not only by preventing the Drying of a narrow Road, but also by annoying Travellers, exposing them to the Loss of their Eyes, and causing Coaches, Waggon, and
other

other loaded Carriages to draw the heavier. Such Owners of Hedges should be obliged to trim them up, by cutting their Outsides in *May, June, or July*, with that we call in *Hertfordshire* a *Mawbawk*, which is a Piece of an old Scythe, fixed in a long Handle of Wood, that a Man may reach their Tops with, as he stands on the Ground.

To mend bye, narrow Lanes, or stotched Gate-ways in Vale-grounds. First throw of the loose Dirt, till you come to somewhat a harder Bottom; then lay Black-thorn Bushes, as a Foundation, and, on them, either Chalk, Hurlucky-stones, Sand-stones, Flints, or Gravel, and it will secure it many Years; and it is now the Way, that is made Use of, in the hither Part of the Vale of *Aylesbury*. And, for Gate-ways, if there is a Ditch on each Side, a hollow Tree, or four-square Boards, is proper to be laid along under the Bush and Stones, where an Arch of Brick or Stone cannot be afforded.

How a boggy Piece of Ground was mended. Mr. *Stoughton* says, that Sir *Christopher Wren*, being the King's Surveyor, found the Way next the *Privy-Garden*, between the two Gates at *Whitehall*, to be extreme bad, and it had baffled his Predecessors, by Means of being an ill Earth: Upon this, he dug it down two Feet, and there pitched and rammed it well with Stones; upon that he threw what came out, and pitched it again substantially, and it remains firm to this Day, only must be mended what the Coaches wear out. — The Road out of *White-chapel* was first made good by laying Trees a-cross, and then Earth, which, with Ditches made on each Side, mended it for the present; and, to keep it so, they laid a high Row of large Gravel, which is forced in, and keeps that Part highest to throw off the Water; and the Dirt is pressed into the Ditches, which are every Year cleansed, and so likely to endure for ever.

C H A P. XIV.

Of Horses, Mares, and Colts,

GRAZING *Cart and Plough-horses.* In this Month, our Draught-horses are generally turned out to Grass, and, in our inclosed *Chilturn*-fields, we commonly feed them on Clover, which is reckoned a foul, rank Grass, in Comparison of some of the best natural Sort ; but, as it is of a more warm and hearty Nature, it makes the Beast less liable to take Cold, and do his Work the better : Yet, at first, we are careful in turning out our Horses, by letting it be the Middle of the Day, before they go out of the Stable ; and then, if the Weather is cold, or wettish, take them in every Night, till the Season becomes more agreeable ; and then, about a Week after they have been out, some bleed them : But, for the most Part, we daily work our Horses, under the Feed of this Grass, or Lucern, by taking them up every Morning throughout the Summer, and give them a Bait of Corn and Chaff for two Hours before they are collared ; and the same, after they come from Cart, or Plough, which fastens their flashy green Meat, and causes it to yield good Nourishment. In our *Chilturn* inclosed Fields, we fetter or logger every Horse, if we apprehend they will be unruly, and break out ; but, where no Danger appears, they go loose and free. After the same Manner, we turn out Horses into a Field of green Thetches, where they will equally feed and thrive, as they do on Clover, or Lucern.

A second Way, is done by daily mowing and giving Clover, Thetches, or Lucern, on Racks ; and, though it is not commonly practised, yet may *St. Foyne* be mowed green, and given to Advantage, in the same Manner. Others sow the three Grasses
of

of Clover, Raygrafs, and Trefoil, altogether, and cut it for Cattle's eating it green in Racks, and they will not only keep Horses in Health, but fat them, or, at least, keep them in Flesh and in Heart under their Work, and, at the same Time, produce Abundance of Dung with the Help of Straw. In this Management many Farmers are not careful to bleed their working Horses above twice a Year, and that is commonly at *Christmas* and a little after their Going into, or being fed with artificial Grass in Racks, because, by their constant Working, the Grossness of this Feed is prevented breeding Yellows, Surfeits, Farcies, Staggers, and other Ails, which often happen by too great Plenty of Blood and too little Work. This Method of mowing Clover, or Thetches, and especially the latter, may be done in Vale-Ridge half-acre Lands, as well as in *Chilturn* inclosed Fields: And therefore, where convenient Ground lies near enough the Stable, that Farmer who neglects Sowing Thetches, or Clover, for this Purpose, in my Opinion, may be justly called a bad Husbandman.

A third Way, is done mostly in the Vale Country, where their Land lies chiefly in the common Field. There, for Want of Inclosure, they are forced to stake their Horses with Bassen Ropes, on their Grass Baulks, which generally lie as Head-lands to their plowed Grounds. But this Way has its bad as well as good Effects; for, by this Confinement, the Horses tread down Stale and Dung on, and spoil a great deal of Grass, which they refuse to eat, till they are brought on the same a second Time some Weeks after, that the Wash of Rains, and the Purity of the Air, may sufficiently sweeten, and return another good Bite. By this also the Horse is exposed to the Torment of the Bry-Fly, which most vehemently draws Blood, and torments the Creature, to the Hindrance of its Thriving; and

what is extreme dangerous, a Horse, in the Night, may break loose, and do a great deal of Damage among common Field Corn. But Necessity has no Law: However, there is this Conveniency belonging to it, that, by such Staking, the Horses Dung and Stale are employed and treaded in as Dressing for enriching the same Ground against another Crop; and this Management is not only performed on Grass-Baulks, but also on Pieces of Thatches.

A fourth Way is performed by giving the yellow Turnep in the Manger, or letting them feed on them in the Field; but the former Way is mostly in Use, as they do in several Parts of *Suffolk* and *Norfolk*, where, if they are sown in well-dressed, rich, sandy Ground in *March* or *April*, may, perhaps, be ready to pull the latter End of this Month, or Beginning of next, and may be continued, by alternate Sowings of this Seed till *Michaelmas* following, which, in their sandy Land, becomes a pure, sweet, and very nourishing Root, as being somewhat of the cannotty Nature, for feeding and keeping the Horse in Flesh and Heart, insomuch that they will work very well under this Food, both at Cart and Plough, for it will supply the Place of both Oats and Hay. And it is likewise with this yellow Turnep, that they fat great Numbers of *Welch* and *Scotch* Runts every Year in these two Counties, both in the Cow-house and Field, and which, for its Sweetness, is often boiled in the Pot for Family Use: Therefore, whoever has a Mind to propagate this excellent Root, may be furnished with its Seed at the *Three Wheat-Sheaves* near *Billingsgate*, where are great Variety of most Seeds sold; but I have a great deal more to say on this Subject, when I write of Winter-keeping of Cart and Plough-Horses.

Grazing Saddle-Horses. Some are so curious in the Management of Saddle-Horses, before they are
turned

turned out to Grass, as to bleed them a Week before-hand, and the next Day give them a Drink made of Diapenta, as follows : Put two Spoonfuls of Diapenta Powder in a Pint of sweet Wine, or Ale, and brew them well together ; or now and then give the Horse one Ounce of this Powder among some Manger-meat. It takes away all infectious Sickness, and creates an Appetite. At the Apothecaries, they sell it for two Pence an Ounce. A Day or two following, begin to lessen his Cloaths by Degrees before you turn him out to Grass, which should not be till the fifteenth Day, for by so doing, and not currying him, the Dust will fill the Pores of the Skin, and prevent his catching Cold. Let it be in the Middle of the Day when you turn him into the Field. And about the twentieth of *August* take the Horse up, for then the Grass begins to be raw and phlegmatic. Then, two or three Days after, bleed and drench him, to prevent Distempers which may arise from the Gall, Spleen, and Rankness of Blood ; but others say, Never purge a Horse just taken from Grass, for that it dissolves and loosens some tender Fat or Humours which will fall into the Legs or Heels, so that the Horse rarely stands dry in the Winter after ; but, after six Days, you may bleed him under a Quart, and at Night give him the following Anniseed Cordial, which is a gentle Opener : — Boil half a Pound of Anniseeds, in a Quart or two of Ale ; pour it upon half a Pound of Honey into a Bowl, brew it till Blood-warm, and give it in a Horn, Seeds and all ; then feed as usual ; give warm Water that Night, and next Morning cloath him : A Mash will do well the same Night. But thick-skinned Horses may be kept out all the Year, if they are allowed an open sheltered Place to feed on Hay between Whiles, and sometimes on Corn, that they may go out and in at Pleasure. An Example of this may be seen in *Great Gaddesden Mash*, where

a considerable Number of fine bred Horses are constantly kept; and thus the Saddle-breed may be kept to hunt and labour, much better than in a confined Place; for, indeed, a Stable is but a Sort of Prison to this useful Animal, whose flashy Grass-diet is, by this Means, bound in, and made to produce good Nourishment, his Limbs kept limber, his Hooves cool and moist, his Wind sound, and the whole Horse preserved to a great Age. A certain Gentleman, that lives about four Miles from me, had a Saddle-Horse with such greasy Heels, that he was declared incurable, which obliged him to keep the Beast all the Year out at Grass in the open Air, only, in snowy Seasons, he would give him some Hay, and now and then some Corn, which, with what Grass he could get, enabled him to carry his Master whenever he wanted him, and, this for many Years, till at last the Horse got intirely cured. Some, again, make it a standing Rule to bleed a Horse after he has been a Week at Grass, by taking him into the Stable in the Morning, and, after the Vein is pinned up, to let him stand till the Cool of the Evening, before he is turned out, in order to prevent the Staggers, or other Distempers, which might otherwise breed from a rank Blood, and holding his Head downwards.

The Shapes and Marks of a good Cart-Horse. He should have a thick Shoulder, and a broad Chest, overladen with Flesh, hanging forward, and heavily projecting over his Knees and Feet, a short Back, short Joints, flat-legged, full-eyed, and wide Nostrils, with a wide Mouth, and round Buttocks. Of such, a Team should be composed of one Height.

The Shapes and Marks of a good Saddle-Horse. He should have the Eyes and Joints of an Ox, the Strength and Foot of a Mule, the Hooves and Thighs of an Ass, the Throat and Neck of a Wolf, the Ear and Tail of a Fox, the Boldness of a Lion, the

the Quick-sightedness of a Serpent, and the Lightness and Nimbleness of a Hare : A high Pace, a deliberate Trot, a pleasant Gallop, a swift running or rebounding Leap, and quick in Hand. Or take it thus : The Hoof should be narrow and black, his Pasterns straight and upright, Fetlock short, Legs straight and flat, Knees long, lean, and round, Ears long and sharp, Sides and Ribs bearing out, and close shut at the Huckle-bone, Neck long and reared, wide-jawed, Breast large and round, Forehead lean and large, Withers sharp and pointed, Back short, Rump round, plain, and broad, a large Space between his Buttocks, or what is called *wide-gascoigned*, and his Yard and Stones small. In short, that Saddle-Horse, which has thin Shoulders and a flat Chest, with his Fore-feet standing boldly forwards and even, his Neck rising semicircular from the Point of those thin Shoulders to his Head, with the before-mentioned Marks, may be justly said to have a light Fore-hand, and is a right useful Horse for a Saddle. To which I add, that a crooked or low-backed Horse, with thin Gascoigns, is, commonly, not only weak, but too often proves unhealthful either for Cart or Saddle.

The Description of a good Stallion. Their Improvement, of late Years, has been so much endeavoured by the Breed of the *Turkish, Spanish, Barbary, German, Hungarian, Neapolitan, Sardinian, Danish, Swedish, and Flanders* Sort, that a true *English* Horse is hard to be found. For it is certain, that the *English* Mare's, Food and Climate gives a considerable Advantage to the foreign Blood, as well as that to her ; so that in *Northampton, Leicesters, Yorkshire*, and other Northern Counties, the best Saddle and Cart-Horses are now bred, as being Countries which abound in vast Tracts of cheap Land, and where they are most careful in their Breed. The *Danish* and large *Flanders* Horses pro-

produce a valuable Draught Sort, and particularly the former, who is a hardy, handsome, short-jointed, and very strong Horse, excelling for the Collar and Harness, as much as the *Turkish*, *Spanish*, and *Barbary* do for the Saddle. On the Choice of a Stallion, depends a good Issue ; of this take Care, for the Parents Distempers are generally hereditary. I have heard of some Owners so knavish, as to use a blind Stallion to increase Custom ; or because the Horse is a fine bred one. A Horse is fit to cover Mares at four Years old, and will hold till he is ten, twenty, or longer, as he is in Goodness, and the Owner is prudent in the Management of him. A Stallion, that was allowed to cover six or eight Mares in a Year, has been found heartier at thirty, than another at twenty Years old, who received all the Mares that came. For it is by the Means of an old, weak Stallion, that so many Horses lose their Eyes, the common Allowance being but sixteen Mares in a Season. Their blind Colours are reputed to be a very dark Grey, the Flea-bitten, White-spotted, Peach-blossom, and Roan ; Black the strongest, and White the weakest Colours. A Horse is at his full Growth at seven, and a Mare five Years old. A Grass-feed is best for a Stallion, because he will be in less Danger of breaking his Wind on that, than on dry Meat. Some are of Opinion, that a Stallion should never be under five, nor above fourteen Years of Age. If he serves only seven or eight Mares in a Season, he will work the rest of the Year after, and last six or seven Years ; but, if kept constantly Abroad with them, he will last but three well. To this I shall only add, what a chief Groom told me, whose Master keeps the *Danish* Breed for his Coach and Cart : The *Danish* Horse, he says, is a black, beautiful, middle-sized, nimble Horse, for the Coach ; requires to have a great deal of Flesh on his Back, or else he will not work

work to the Purpose; nor will he, at any Time, bear a Whip, for, if it is much used on him, he will refuse Drawing, and, at best, will not stand to his Collar in Case of Necessity, like a true bred *English Horse*.

To make a barren Mare take Horse. Stamp a good Handful of Leeks, with six Spoonfuls of Wine, and a little Powder of Cantharides, which strain through a Cloth with Water, enough to serve her twice, to be put into her Nature by a Clyster-pipe made for that Purpose; then, at three Days End, offer her the Horse, and, if he covers her, wash her Nature with cold Water twice together.

A second Way. Take a little Quantity of Nitrum, Sparrows-dung, and Turpentine wrought together, and make like a Suppository, which put into Nature, and it will do.

A third. Give two Quarts of Hempseed with Oats, Night and Morning, for eight Days before.

A fourth. Boil good Store of the Herb Agnus in her Water.

A fifth. In case you have any particular Opportunity of a fine Stallion, and your Mare is not naturally disposed to receive him, or will not stand to be covered, then give her a Drink of clarified Honey and new Milk, mixed together, which as soon as done, pat her Hind-part with a Bunch of Nettles, and immediately after offer her the Horse, whom she will readily receive.

The Management of a breeding Mare, and her Foal. A Mare should be three Years old before she takes Horse, and then she will hold it to ten well, or worse till twenty. Some will breed every Year; some again every second; others will let two Years pass between. The Time of taking Horse, that the Mare may foal at Grass, is from the latter End of May, to the End of July, for she goes eleven Months and nine Days, and so many more as she

is Years old above eleven Months. It is a common Maxim, that a Mare should never take Horse, while she suckles her Foal. Some bring an ordinary Stone-Horse first to one Side of the Pails, Rails, or other such Place abroad, to woo and try the Mare, and, when she is perceived to stand the Horse, the true Stallion is brought out, and covers her twice or thrice, for which Purpose the Horse should not drink his Fill over Night, lest he break his Wind; others will let her take the same Horse the next Morning, and some the Morning following that. After Covering, lead the Mare into a Pond up to her Middle, and let her drink but little; from thence have her into the Stable, and keep her out of Hearing of the Horse. Others, more curious, will make a Place in the Stable for the Stallion to put his Head through, and, when they bring the Mare to him, they can know if she is prompt. They also observe to throw a Pail of Water on her Hind-part, as soon as the Covering is over, to restringe her Parts, as we do to our Hogs and Cows. Others will directly ride her down Hill, or on plain Ground, for Half an Hour. But these are not quite so right, as those who bleed her just before she is horsed (as I shall by and by further observe) and ride her as soon as she is pinned up. As to our Cart-breed, when they think the Mare will abide the Horse without Kicking him, they bring the Stallion and Cover in Hand, and in a Month's Time it may be known whether she stands her Horsing; if not, have her to Horse again. The most dangerous Time for the Cart-sort is, when the Mare is quick about *Michaelmas*, for then a small Strain makes her cast her Colt; but afterwards, with Care, there is no great Danger, which makes them work a Mare sometimes till she foals in her Harness; but this is carrying the Matter too far; however, they may guess within three or four
Days

Days of her Foaling, by the Wax at the End of her Teats; and, that she may have Milk enough, some put her to Grass, a Fortnight, or more, before she foals. Weaning Colts are ordered variously; some Farmers wean at *Michaelmas* for their own Use, saying, Longer makes the Mare faint, and the Colt little the better; besides which, it enables the Mare to take Horse the sooner next Year, and prevents her casting her Foal: But, if the Colt is for Sale, in some Parts, they let them suck till *Martinmas*, which is the eleventh of *November*, as they do in *Warwickshire*, for selling their Colts at *Rugby-Fair*, where many are sold on this Day, though it is possible to wean a Colt at a Month old; but then it must have Milk twice a Day given it in a Bowl with soaked Oats besides, till ten Weeks old, and then they commonly give it Whey twice a Day, or oftener, at Grass. The first Winter they must be maintained with Hay and Oats twice a Day. The next Winter they will live on Straw, like a Horse; but they should never be backed till three Years old, nor drawn till two; though a Colt is more tender at three than two, because it then sheds its Grinders. Others won't wean a Colt till *February* following, and then take them out of Hearing of their Dams. Colts are not cut till about a Year old, but some let them alone till two, three, four, or five. In the North, they sometimes spay a Mare at a Month old, and then they become larger and tougher than a Gelding; but their speedy Growth is apt to make them over-run in the Joints, and be weaker in them Parts, than if they were never spayed. Some are so curious in the Management of their Colts, that they always give them two Purges, and a Cordial-drink, upon their taking them into the Stable for good, to kill Worms, and prepare their Bodies the better for House-feeding. The first Foals are commonly small and puny. A full aged Mare breeds the strongest Colts; and an old

Stallion may get as stout Colts, as a younger Horse. In this Month, get your Cart-mares leaped.

A further Account of the breeding Mare. The *English* Mare is allowed the best of any to breed by, and, by some, thought fitter at four, than three Years old; for that, after ten, she declines. Before Covering, let her be well fed in the Stable for six Weeks, and, if you would have her take sure, bleed her five Days before she takes Horse; then tie her to a Post Abroad, and bring her out a Jade Stone-horse to dally and provoke her; after which, in a Morning fasting, let the true Stallion cover her: Then throw a Pail of Water on her Hind-part, and take her out of Hearing of the Horse, but not to eat nor drink for five Hours after; then give her a Mash, and, after that, Water with Bran in it; for, in this Case, it is necessary to feed her as sparingly, after she has taken Horse, as you did plentifully before. Her Signs of Standing are, a good Stomach, not Neighing after a Horse, pisses not often, opens and shuts not her Shape frequently, nor her Shape grow gaunt after it, nor her Hair sleek. Others will put a Mare and a Horse together three or four Nights, and take him away every Morning to feed him well all Day, but the Mare sparingly. Then keep the Mare in the House a Month, before she is turned out to Grass, and taken up at *Michaelmas*. If she cannot foal, give her the Quantity of a Walnut of Madder-root Powder, dissolved in a Pint of warm Ale; it is ground, and sold by the Druggist; and, if she does not void her Secundine, put a Handful of Fennel-seeds into a Pint of Strong Beer, and boil them with a fourth Part of Sweet-oil; pour this into her Nostrils lukewarm, and stop them for some Time. When she has foaled, milk her before the Colt sucks; and, if her Bag is hard, boil some Lavender and Spike-leaves in her Milk, and with it chafe the Part warm. Hot Water must be mixed with
a little

a little Bran, and Mashies given her. At a Month's End give her a Mash with Flour of Brimstone and Savin in it ; it will do the Colt Good ; then work her, but do not let the Colt suck when she is hot. Some say, Winter Foaling is bad, because there is no Grass : Others, that it is best ; because, if the Mare is kept in a warm Stable, and well, the Milk is better, and will make a larger and tamer Colt. To prove if a Mare is with Foal, pour a Spoonful of cold Water, or Vinegar, into her Ear, and, if she only shakes her Head, it is a Sign she is with Foal ; but, if she shakes Body and all, it is a Sign she is not. If she is subject to lose the Foal, give her a Mash of Malt now and then ; if she has lost it, boil Mugwort in a Quart of Brine, and give the Liquor. Always set down the Day of Horfing, that you may the better watch her Foaling, and be the readier to assist with Medicine and Hand, if Occasion require. Then, to make her foal, give her same Polypody in a Pint of warm Ale. When foaled, give her a Mash, three Days together, of three Pints of Meal in warm Water, into which put a Handful of Salt ; and then, if the Weather is seasonable, she and her Colt may go to Grass. Some, indiscreetly, work a Mare in a Week's Time after Foaling ; but, if you will have the Mare and Colt improve, let it be a Month first. After the Colt has sucked a whole Winter, its Mouth will grow hard ; then put it into a Stable, without Tying, well littered, and fed with Oats, Bran, and good Hay ; but harder Meat than this it should not eat, lest it strain its Eye strings, and blind it. This Way of Weaning makes stronger Horses by far, than those weaned at Grass. A Horse is not fit for much Fatigue, till after he has cut his Tusshes. I shall conclude this Article with the following Hints : That, whereas it is too common a Fault, with the *English*, to break their Colts too young, before their

Joints and Sinews are well knit, their Hooves tough, their Eye-sight good, and their Chine full strong, which often is the Occasion of Blindness; brittle-hooved, weak-backed, shackle-hammed, full of Windgalls and Splints; and thus a Horse becomes old and stiff at ten Years of Age. On the contrary, if he is broke late, at three or four Years old, he will last a good Horse till Twenty-five. This is a Misfortune, they say, is generally seen in the *Spanish* Breed, whose Country, being open, obliges them to take up their Horses too young; which, with us, may be prevented by our inclosed Grounds, and, by a right Management, have the best of Horses, that none breed, but ourselves; because, in other Climates, they degenerate, and which will always occasion a good Market for ours, in foreign Parts.

The particular Management of a certain Gentleman in the Breed of Race-horses. This Gentleman keeps a considerable Number of the Race-breed, and endeavours, all he can, to make his Mares bring the right Sort; and, to cause them to stand to their Horfing, he always bleeds, and throws Water on the Mare, as soon as horsed: But, when his Groom has the sole Management of the Affair, he strikes the Mare first with his Flegme without a Cord, and lets her be directly horsed; then he cords, till she has bled enough; for, if he struck her after Horfing, it might fright her, and spoil the Intention, as it happened to the same Gentleman in another Way; and that was, when he had several Mares horsed in one Day, he put all of them together in one close warm Stable, which prevented most of their Standing to their Horfing; for here they dallied and provoked one another, almost as if a Stallion had been among them. But, since that, he has learned better, and puts each Mare in a Stable by herself till the Evening, and then turns them out in different Fields; which cools her Body, and keeps them

them quiet ; which is better than Turning her out in the Day-time, for then she might see, and be more liable to hear others. It was this same Gentleman, that had got a Receipt to make a Drink, that would cause a Mare to take Horse, and, by other Directions, to stand to it : But, after several Trials, it was proved not to answer, and then it was laid aside. Now, in order to have stronger Colts, than his Neighbours, he lets some of his Mares be horsed in *December, January, February,* or *March*, that, by such forward Horsing, the Colts may be the better enabled to run a Match with Colts of the same Number of Years ; by which there may a considerable Advantage accrue to the Owner : For, although the Years of their Age may be reckoned alike, yet there may be half a Year's Difference by the forward Horsing ; besides which, as such forward Colts are kept in the Stable, on Milk produced from Hay, Corn, and Mashies, such Management must still add to the Strength of the Beast, by the more nourishing Nature of such Milk, than that produced by Grass.

To preserve Colts, when the Mare dies in Foaling. This often happens, and then, without good Management, the Colt dies also ; therefore one, over nice, used to prepare Cows Milk, sugaring it, and heating it over the Fire ; but this did not answer, till the following Method was made Use of, *viz.* By milking a Cow into a Bowl, and then putting a Finger immediately into the Colt's Mouth, and forcing its Chops into the Milk, it would suck it ; and go on, till it would drink the Milk of itself, and be nourished wholly by it, till it would eat Hay and Corn. It is said, the *Arabs* generally let their Fleet-bred Colts suck Camels, because these Creatures, being of a greater Bulk than Mares, give the greater Quantity of Milk, which, in Course, brings
on

on a speedier and stronger Growth ; for, whether Camel's, or Mare's Milk, it is all one to the Colt.

The Cause of Blindness in Horses. There are several Incidents, that may occasion this Misfortune : First, hereditary, by Means of a blind Sire. Secondly, by the Stallion's Leaping too many Mares in one Day ; for it is such an one, that not only gets weak-eyed Colts, that soon become blind, but also unhealthy Jades. In *Shropshire*, one Stallion leaped fourteen Mares in one Day, as I was credibly informed by a Nobleman's Pad-groom, and only the last proved with Foal. One of this Sort fell to my Share at *Dunstable-Fair*, in 1739, where I bought, I thought, a very promising Mare three Years old, and had a good Account of the Sire and Dam, she came of ; for she was bred but at a Village near *Leighton-Buzzard*, and had the Marks of a good Creature. But I was deceived ; for her Eyes began to fail at four, and she proved not only a Jade in the Collar, but a most stubborn, unlucky Bitch besides. If the Boy struck her at Plough, she would answer it every Time, and give a vehement Strike out, insomuch that I was forced to have Trace-ropes made on Purpose to hook to the Collar, that the Boy need not go near her Hind-legs ; and, in the Team, if she was much whipped, she would sit on her Arse, and defy any such Remedy. In short, after Keeping her about a Year, I luckily got a Swap at the same Fair ; and thus as she came, she went : However, I afterwards told the Buyer of her Kicking, to which he slightly answered, He must take the more Care of her. *Thirdly*, By feeding indiscreetly Colts too soon with hard Corn. *Fourthly*, By working them too soon and too hard ; which is a Fault, we Farmers are too commonly guilty of ; for to work Colts at two Years old, against aged stanch Horses, is certainly the Cause that many fall blind, and become weak-backed and shackle-hammed.

Fifthly,

Fifthly, By a Horse's holding down his Head for a considerable Time together, which sometimes brings a creamy Humour into one, or both Eyes. I had a Horse, that always suffered at Grass this Way, till he lost one Eye intirely. *Sixthly*, By frequent and violent Purgings, that not only endanger his Eyes, but his Life too. *Seventhly*, By taking a Horse off a plentiful Living to Scarcity, and then it is, that his Eyes sink. So a Horse, when he is hard rid on poor Feed, is apt to suffer by the Consumption of his Eyes, for Want of a due Nourishment from his Blood.

Warranting a Horse. By Custom, a Jockey is to warrant a Horse, when sold, against Glanders, or other Unsoundness, hot or cold; but not against those Infirmities that may be seen: In which Case, the Buyer is to re-deliver the Horse in nine Days Time, and have his Money again, or else the Law will oblige him to it, as was, by a particular Case, a few Years ago, proved at *Hertford* Assizes; where the Buyer recovered his principal Money, with Damage and Costs, for the Sale of a foundered Gelding, warranted sound.

C H A P. XV.

Of Trees and Insectss.

TO improve the Cherry-tree. If, in the last Month, you have not drawn the Point of the Knife down the outward Rind of standard Cherry-trees, neglect it no longer, than the very Beginning of this; and then it must be done as shallow as possible, that only the very outward Bark may receive the Cut, lest, otherwise, the Sap and Gum be discharged by the Slit in too free a Manner; for, if this Operation is not done, this Hoop-bark will certainly

tainly impede the Growth of the Tree's Bulk. Mr. *Laurence* says, that, by this very Means, a Cherry-tree will grow bigger in one Year, than, if neglected, in fifteen: I have Hundreds of young Trees, that I, every Year, cut the Bark off.

Several Remedies for the Blights of Trees. Now look to your Standard Fruit-trees, this being commonly the most dangerous Time for the first Breed of Insects on them, who do a great deal of Mischief, especially in dry Seasons; for, when this happens, as it did in the Year 1736, a great deal of Fruit is generally destroyed. In this Case, therefore, use these Remedies: Burn Horse-litter, or other Straw, under your Trees; or else, with a *Dutch Squirt*, throw a good Quantity of Water on them; or carry up some Pails of Water, and throw over their Tops, and it will secure your delicate *May Duke* Cherries in particular; which as they seldom grow on a very large Tree, it is the easier done. All this I have known to succeed to Admiration; for, about the latter End of this Month, an Insect seldom, or never, misses attacking our green Cherries with so much Diligence and Fury, as to spoil great Numbers of them, by eating into their very Stone; and, because of this hollow Operation, we call them *Ladle-men*, or the Green Fly, or Bug. The latter End of this Month, there were also, in this dry Season, vast Swarms of exceeding small Insects, thought to be brought over by Easterly Winds, that settled on our Apple and Pear-trees, and there made their Cobweb-Nests. The Butter-flies also laid their Eggs, and bred Caterpillars, that over-ran many Trees, especially those that stood in low Grounds, out of the Power of Winds, and eat up both Fruit and Leaves. So likewise did these Devourers seize on the Beech-trees, where they stood so thick, as to hinder the Benefit of Winds, and thereby became so plenty, and spinned so many Cobwebs, as made it

it disagreeable to walk near such Trees. If your Trees grow in Hedges, and you cannot well burn your Straw under them, lay such Rubbish-straw at a proper Distance from the same, and set it on Fire, when a strong Wind blows; for, by this, the Smoke will be carried among the Caterpillars, or other Insects, and kill them.

Cleaning Trees. Now make Use of the Knife and Hair-cloth; the first, when the Body and Arms of your Standard Fruit-trees are wet, should be scraped with the Back of a Knife, to rub off the Moss, and dilate the Bark, for the more free Admission of the nitrous Air and Rains into the same. The second will answer the like Purpose, and both will add a new Fertility to the whole Tree, and, consequently, be a Means of increasing its Fruit.

The Breed and Mischief of the Slug, or naked Snail. This Insect, as far as I can understand, has escaped the Notice of all Authors; and therefore I shall, here, be the more particular in my Account of it. There are two Sorts of Slugs, or rather two Colours of them (occasioned, perhaps, by their Youth and Age) for they both agree in Bigness, Shape, and in their Mischief for about nine Months in the Year; are white and black, an Inch or more long, but have no Shell. The Slug is bred, both in Field and Garden, by small Eggs, that they commonly lay in *August* in the Ground; and here, in many Places, they lie undisturbed till *Candlemas*, when they crawl out of their Nests, and begin to feed on the sprouting Vegetables till *November*, if *October* is a mild Month. Some think the old ones die every Year; others, more probably, that they wrap themselves up in dead Leaves, Grass, or other Stuff, for their Preservation in cold Seasons: Yet, when Winters have been attended with long and violent Frosts, as that was in 1739, it kills most of these Insects, as, I am sure that did; for we have had none

to signify in the two following Summers. In some wet, hot Summers, they do a Power of Mischief. My Neighbour sowed Pease in *February* in the Field, and, by the first of *April*, they were eaten up. In *April*, 1738, the Slugs were so thick among the random-sowed Pease, that Pottles of these Insects might be gathered in a little Field. The first green sweet Sprout of some Pease were eaten, before they could be well seen; when this happens the Crop is spoiled. Or, if they let it alone till the Stalks get up, and eat them down afterwards, it is of bad Consequence; because if the Pea happens to make a second Shoot, as sometimes it does, and grow the thicker for it; yet then there is commonly a great deal of Straw, and but little Corn, by Reason of their late Kerning. In *September*, they will lie and eat Holes in the Turneps, and get, two or three together, into a Hole. A Neighbour of mine gave one Plowing to a Wheat-stubble, and harrowed in Rape and Turnep-seed together, for the Sheep to feed on their Leaves; but the Slug presently eat up all, while they were in their two seedling Leaves. They will feed on young Carrots and Turneps to that Degree, that many thousand Acres of the latter have been destroyed in one Year, and that after the Land has been sowed two or three Times in one Summer. It is these Insects, that help to bring on the Rot in Sheep, by their slimy, watery Bodies, which the Sheep take up in their Feeding on Commons, and elsewhere. In short, the Slug not only hurts young Carrots, Pease, Turneps, Clover, Rape, Flax, &c. while they are in their sweet second Leaf, but continue their Mischief to the Pea in particular, so long, that it is *Holy Thursday*, very often, before the Farmer can tell how it will be with them. They will eat Thatches, or Tares, ragged, but not so easily kill them, as the Pea. The Bean they never hurt, because it is tough and bitterish. It is in warm showery

showery Weather, that they do the most Damage ; for in a dry Time they disappear, and, by that, the Plough, and the Harrows, many of them are killed. In the Day, they lie in little Holes under a young Turnep, which serve as Passages to their Cells ; and, in the Night, Thief-like, they do their Mischief. If the Summer is for the most Part dry, they do but little Harm till *September*. This Insect is likewise the Pest of the Garden, as well as the Field, where he devours young Cabbage-plants, Kidney-beans, and many other culinary Vegetables, to the almost Ruin of the laborious Gardener, who knows no better Way to destroy them than with his Fingers, or Scissars, whereby he loses a great deal of Time and Pains. Therefore I shall, in one of my Monthly Books, discover a noble Ingredient, that, as I have hinted before, will infallibly prevent the Slug's doing any Mischief to Vegetables, it is sowed upon, and that in the wettest Weather ; for it is no Powder, but will dress the Land at the same Time : So that neither the Gardener, nor Farmer, need fear losing their Crops of Turneps, Cabbages, or any other, by the Slug, as heretofore.

The Nature and Mischief of the Fly. As the Slug does his Mischief in the Night, this Ravager does his in the Day, and so furiously attacks young Turneps in their sweet seedling Leaves, that, in some Years, it is a Rarity to see an Acre of well planted Turneps. In *April*, they have been seen to fly in Swarms, just above-ground, a little before a Shower of Rain, skipping and flying from one Turnep to another, till they destroy a whole Field in a short Time. Its black Body is a small Matter bigger than a large Flea, and, at Night, lies on the Ground, under a Turnep-leaf. This Insect, with the Slug and Caterpillar, are all concerned in the Ruin of the Turnep ; but the Fly is reckoned by far the archest

Enemy, because, in almost all Weathers in the Summer-time, he commits his Rapine, by gnawing the young Turnep, while it is in its second, luscious, tender Leaf; for, when it has made its third, he then often refuses it, as being too tough and bitter. It is these Insects, that bring the Farmer under very heavy Losses of Time, Labour, and Money, by spoiling his Crops; which to prevent, there have been several Antidotes invented: As Soot, Lime, Ashes, Tobacco-Sand, and, in particular, the Horse-hair Rope, and Glass in Powder to keep off the Slug: But, as all these have been either found ineffectual, or too chargeable, I shall in my next Month give you a Receipt, that will secure an Acre of Turneps from the Fly (but not the Slug) for Two-pence Charge; for I do it, by applying something to the Seed, for three Days together, before Sowing, and is what I every Year practise, to the Saving of my Turnep-crops. Now, if these two Secrets answer what I here assert they will do, and which I am certain they will, by full Experience; how valuable they will be to the Farmer in particular, and to the Nation in general, I leave to the Thought of my Readers.

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